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CURRENT SERIAL RECORDS

WATER SUPPLY OUTLOOK FOR OREGON

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE
and
OREGON STATE UNIVERSITY
and
STATE ENGINEER of OREGON

Data included in this report were obtained by the agencies named above
in cooperation with other Federal, State and private organizations.

||||| AS OF |||||
JUNE 1, 1968
|||||

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season as they affect runoff will add to be an effective average. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1400 snow courses in Western United States and in the Columbia Basin in British Columbia. In the near future, it is anticipated that automatic snow water equivalent sensing devices along with radio telemetry will provide a continuous record of snow water equivalent at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data or reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

PUBLISHED BY SOIL CONSERVATION SERVICE

D. A. WILLIAMS, Administrator

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 507, 701 N. W. Glisan, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	P. O. Box "F", Palmer, Alaska 99645
Arizona	6029 Federal Building, Phoenix, Arizona 85205
Colorado (N. Mex.)	12417 Federal Building, Denver, Colorado 80202
Idaho	P. O. Box 38, Boise, Idaho 83707
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Building, Salt Lake City, Utah 84111
Washington	360 Federal Office Building, Spokane, Washington 99201
Wyoming	P. O. Box 340, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



WATER SUPPLY OUTLOOK FOR OREGON

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued

JUNE 8, 1968

Issued by

D.A. WILLIAMS
ADMINISTRATOR
SOIL CONSERVATION SERVICE
WASHINGTON, D.C.



Released by

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SOIL CONSERVATION SERVICE
PORTLAND, OREGON

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DIRECTOR
OREGON AGRICULTURAL
EXPERIMENT STATION

CHRIS L. WHEELER
STATE ENGINEER
STATE OF OREGON



Report prepared by

W.T. FROST, Snow Survey Supervisor
and

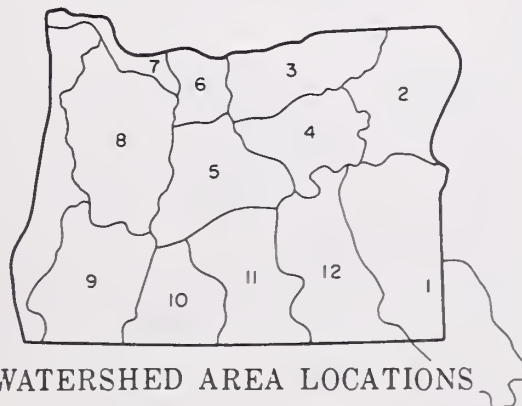
TOMMY A. GEORGE, Assistant Snow Survey Supervisor
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WATER SUPPLY OUTLOOK for OREGON

June 1, 1968

Generous but long-overdue precipitation in the last half of May was welcomed by most Oregon water users but will provide only a brief relief from extreme water shortages. Levels of Western Oregon streams received a much-needed "boost," and both dry-farming and irrigation operations were temporarily helped, but no significant increase in flow is seen for Eastern Oregon streams already at record-low levels. The water situation remains critical in most of Oregon.

PRECIPITATION and SNOW COVER

Precipitation, state-wide, from September 1, 1967 to May 1, 1968 averaged 71 percent of the normal with 83 to 91 percent west of the Cascades. East of the mountains it ranged as low as 50 to 54 percent in Klamath, Deschutes and Crook Counties. May brought normal precipitation along the Cascades and as low as 49 percent in the John Day and Harney Basins. Snow cover vanished several weeks ago except for patches on the high peaks and ridges.

SOIL MOISTURE

Soil moisture improved greatly west of the Cascades in the last two weeks but state-wide it is less than last year because of the greater than usual amount of cool winds.

RESERVOIR STORAGE

Stored water supplies in 26 Oregon irrigation reservoirs on June first totaled 1,827,800 acre feet or 74 percent of the 15-year average (1948-62). This is 670,700 acre feet less water than was in storage a year ago. Irrigation water supplies will be critically short except for lands served from Upper Klamath Lake, Gerber and Clear Lake in Klamath County; Lake Owyhee in Malheur County; Unity Reservoir in Baker County; Wallowa Lake in Wallowa County and Prineville in Crook County.

continued on next page

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STREAMFLOW

The following streamflow forecasts are compared with the 15-year average flows (1948-62):

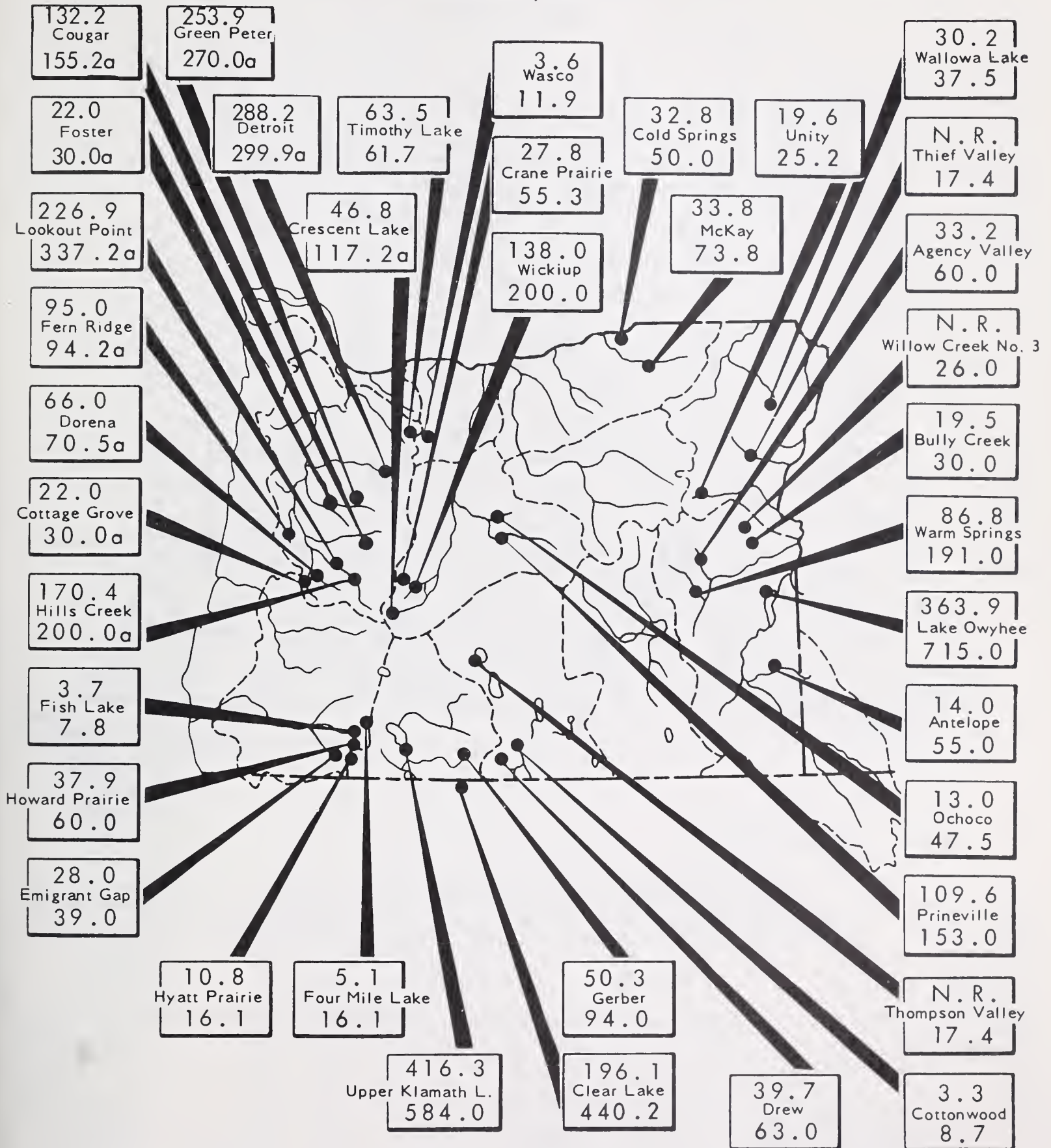
Stream Station	Period	Acre Feet	Percent Average
Lake Owyhee Inflow	May-Sept.	32,000	17
Malheur R. nr. Drewsey	May-Sept.	3,200	9
Burnt R. near Hereford	May-Sept.	4,000	22
Powder R. near Baker	May-Sept.	16,000	36
Lostine R. nr. Lostine	Apr-Sept.	109,000	83
Grande Ronde at La Grande	May-Sept.	32,000	26
South Fk. Walla Walla R.	May-Sept.	36,000	62
Umatilla R. at Pendleton	May-Sept.	29,000	30
John Day R. at Prairie City	Apr-Sept.	20,000	39
Crooked River near Post	May-Sept.	5,000	10
Deschutes R. at Benham Falls	May-Sept.	260,000	48
Hood R. near Hood River	May-Sept.	140,000	50
Willamette R. at Salem	Apr-Sept.	2,950,000	53
Rogue R. at Raygold	May-Sept.	370,000	51
Klamath Lake Inflow	May-Sept.	235,000	54
Chewaucan R. near Paisley	Apr-Sept.	40,000	45
Drews Reservoir Inflow	May-Sept.	2,000	18
Silvies R. near Burns	Apr-Sept.	15,000	15
Blitzen R. near Frenchglen	Apr-Sept.	15,000	24



STORAGE STATUS of OREGON RESERVOIRS

usable contents in thousands of acre feet

June 1, 1968



EXPLANATION

687.0	---	Contents
Lake Owyhee		
715.0	---	Capacity

(a) Multiple purpose reservoir - space reserved for flood runoff.
N. R. - No report.

MOUNTAIN SOIL MOISTURE in OREGON as percent of capacity

June 1, 1968

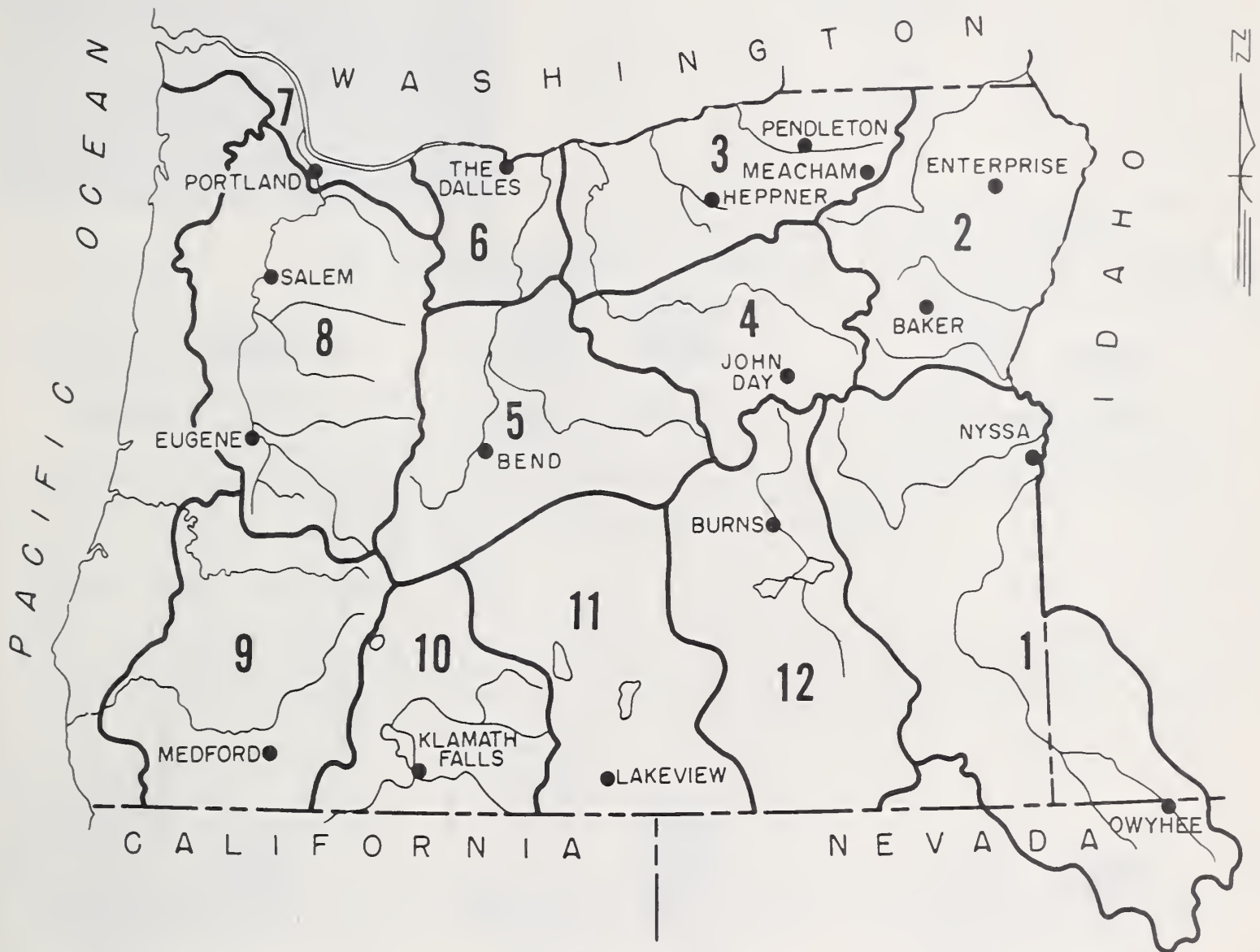


● Soil Moisture Station

**Moisture studies not yet developed in these areas.*

VALLEY PRECIPITATION in OREGON ^a

June 1, 1968



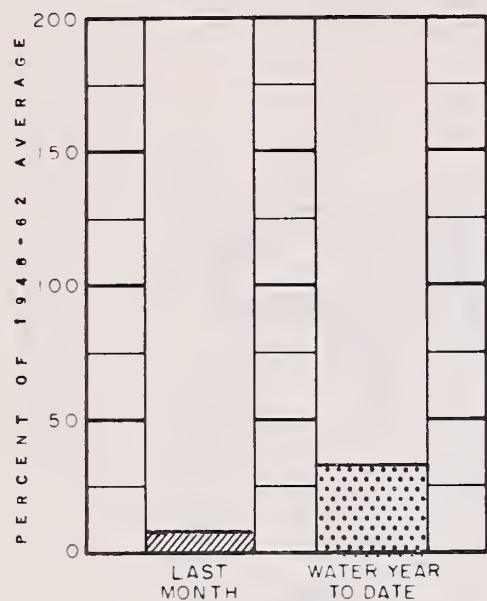
PRECIPITATION as PERCENT of the 1948-62 AVERAGE

STATION	LAST MONTH	WATER YEAR TO DATE ^b	STATION	LAST MONTH	WATER YEAR TO DATE ^b
BAKER	29	72	LAKEVIEW	119	86
BEND	47	49	MEACHAM	79	90
BURNS	115	76	MEDFORD APT.	71	76
ENTERPRISE	89	84	NYSSA	65	75
EUGENE APT.	132	87	PENDLETON APT.	43	50
HEPPNER	64	57	PORTLAND APT.	165	89
JOHN DAY	53	59	SALEM APT.	152	92
KLAMATH FALLS APT.	97	53	THE DALLES	92	62
			OWYHEE (NEV.)	70	81

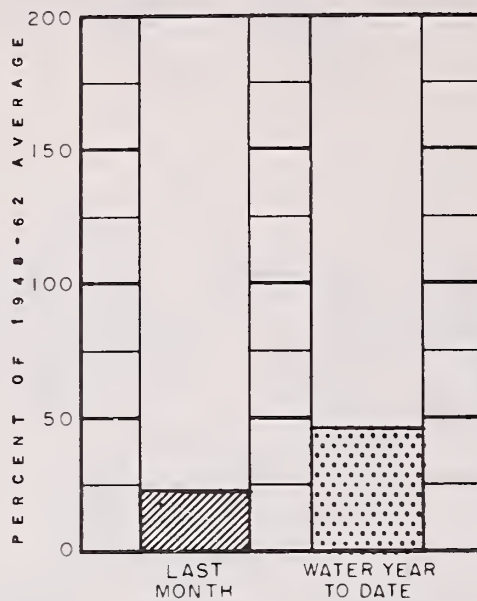
(a) Preliminary data furnished by the U.S. Weather Bureau. (b) Oct. 1 to date. (c) Report delayed.

CURRENT OREGON STREAMFLOW

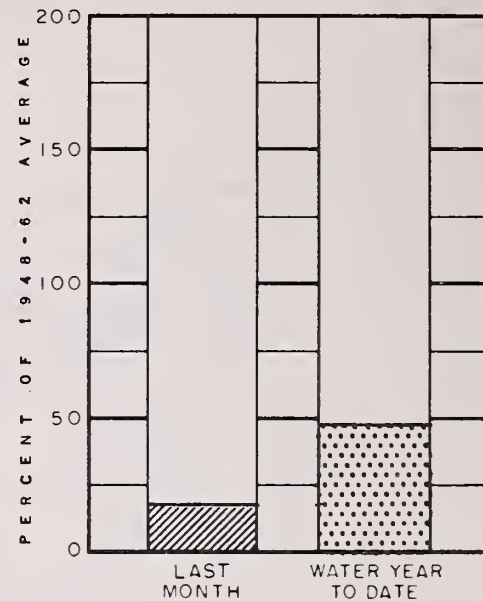
June 1, 1968



Owyhee Lake net inflow



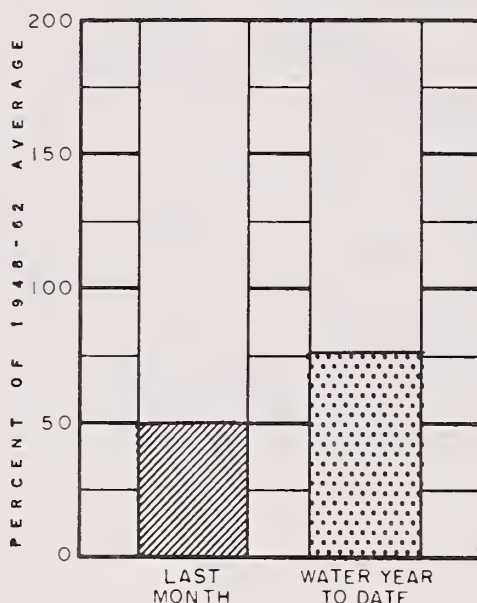
Grande Ronde at La Grande



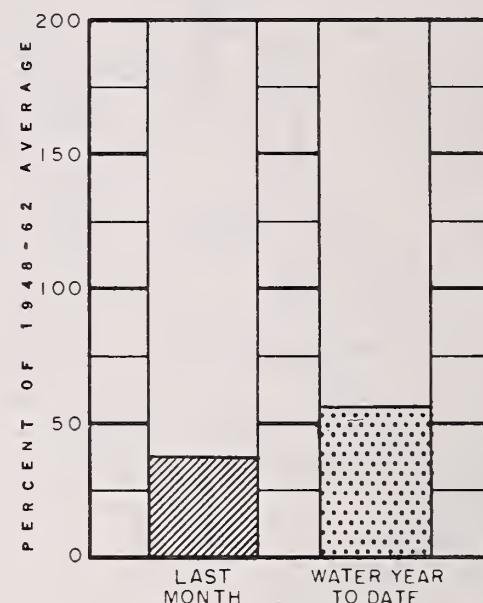
Umatilla at Pendleton



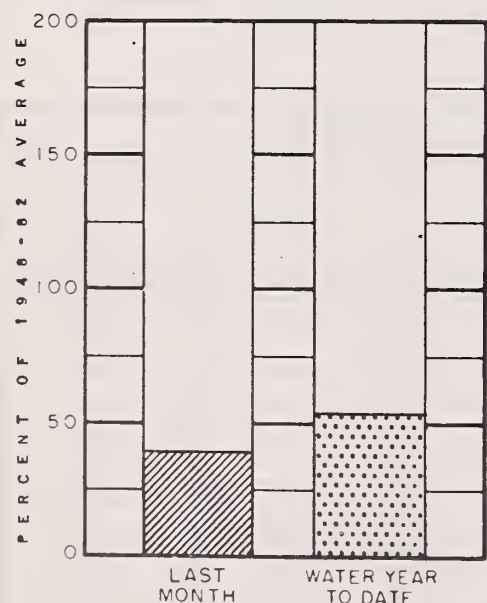
John Day at Service Creek



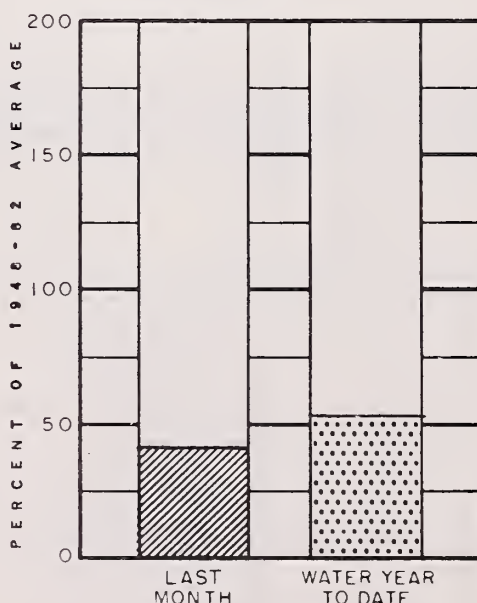
Deschutes at Moody



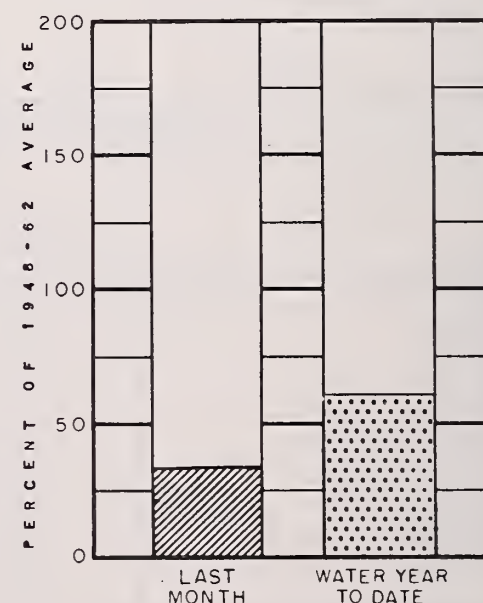
Mid. Fk. Willamette below No. Fk.



Umpqua near Elkton



Rogue at Raygold



Upper Klamath Lake net inflow

Data furnished by U.S. Geological Survey; The Pacific Power and Light Co.;
and North and South Boards of Control Owyhee Project.

WATER SUPPLY OUTLOOK OWYHEE, MALHEUR WATERSHEDS OREGON

as of
JUNE 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK

The poorest water supplies in thirty-five years are expected for Malheur County water users this summer, with local stream levels already at the record-low of 1934. Water will be barely sufficient only for lands served from Lake Owyhee reservoir. Lands served from Warm Springs, Agency Valley and Bully Creek reservoirs will likely be out of water by about September first. Jordan Valley Irrigation District will be "out of water" even earlier.

PRECIPITATION and SNOW COVER

Precipitation from September 1, 1967 to May 1, 1968 has been only three-fourths of the average according to data provided by the U. S. Weather Bureau. In the month of May the precipitation was about one-third less than the normal.

Snow has long since vanished except where drifts and patches remain on high peaks and ridges.

RESERVOIR STORAGE

Antelope reservoir held about 14,000 acre feet on June first compared with 55,000 acre feet at this time last year. No information has been received concerning storage in Willow Creek #3 reservoir.

Water held in Warm Springs, Agency Valley and Bully Creek Reservoirs totaled 139,500 acre feet on June first compared with 214,300 acre feet a year ago. Flow of streams entering these reservoirs has now fallen to levels close to the critical year of 1934.

Lake Owyhee held 363,900 acre feet at the end of May, compared with 479,000 acre feet at this time last year. This is a barely sufficient supply for lands served from this source.

STREAMFLOW

Inflow to Lake Owyhee during May was only one-tenth of the usual amount.

Expected streamflow in Malheur County, May 1 through July 30, is forecast as follows:

<u>Stream</u>	<u>Acre Feet</u>	<u>Percent of 15-Year Average</u>
Jordan Creek	8,000	16
Owyhee Inflow	25,000	15
Malheur near Drewsey	3,000	9
Malheur at Beulah	12,000	36

Report prepared by
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WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair"
"Average" or "Excellent"

RESERVOIR STORAGE (1,000 Ac. Ft.) June 1, 1968

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Boulder Creek	Spring peak flows are past.	Poor
Bully Creek		Poor
Cow Creek		Poor
Jordan Creek		Poor
Jordan Valley Irrig. Dist.		Poor
McDermitt Creek		Poor
Oregon Canyon Creek		Poor
Owyhee Project		Avg.
Succor Creek		Poor
Tenmile Creek		Poor
Vale-Oregon Irrig. Dist.		Fair
Warm Springs Irrig. Dist.		Fair
Willow Creek (Reservoired)		Fair

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Agency Valley	60.0	33.2	54.0	50.2
Antelope	55.0	14.0	55.0	35.0 ^m
Bully Creek	30.0	19.5	25.5	- -
Owyhee	715.0	363.9	480.2	545.3
Warm Springs	191.0	86.8	134.8	124.1
Willow Creek #3	26.0	6	- -	- -

STREAMFLOW FORECASTS^a(1,000 Ac. Ft.) as of June 1, 1968

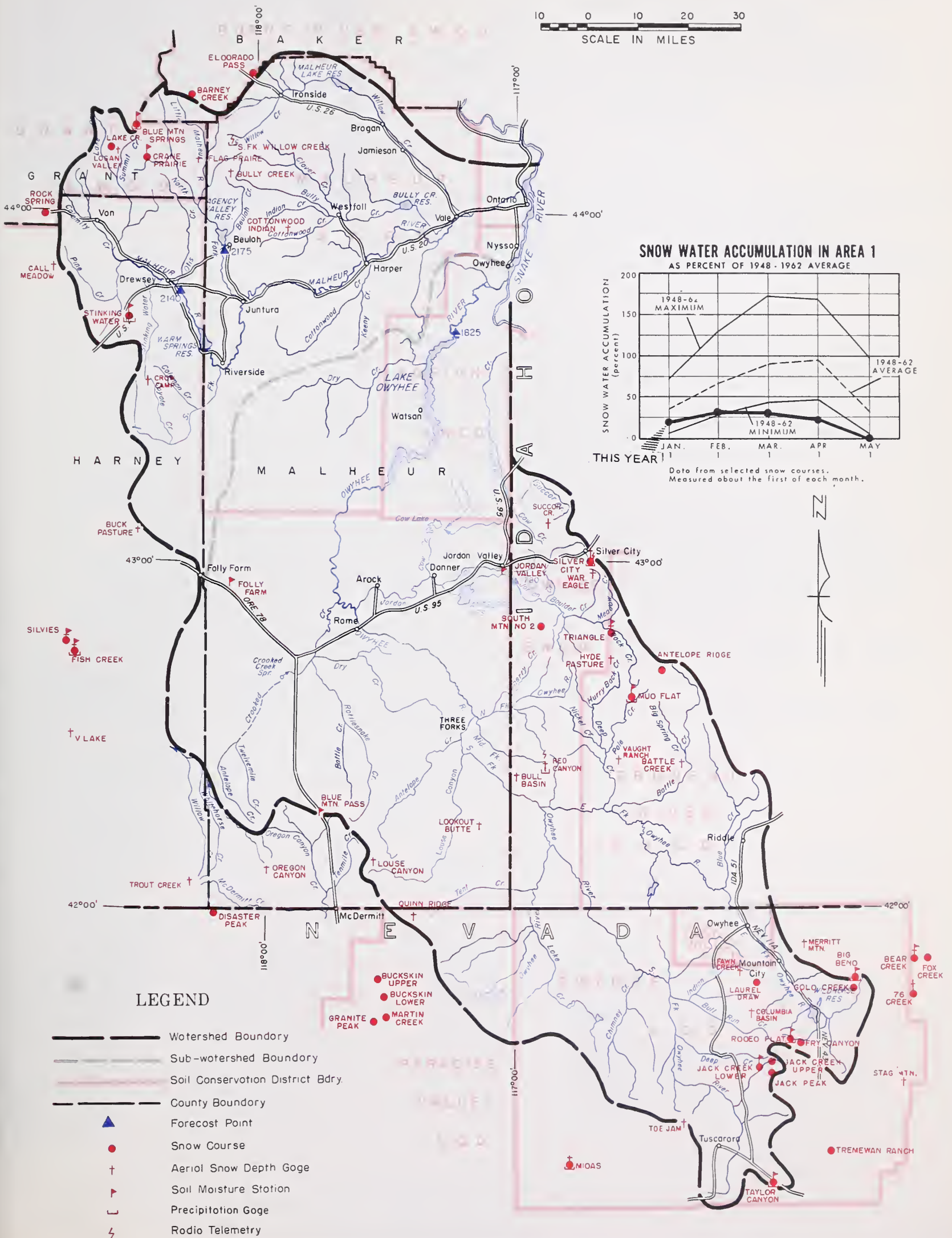
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT. OF AVERAGE ⁱ
NO.	NAME				
1780	Jordan Creek above Lone Tree Creek	8.0	May-July	50	16
2140	Malheur near Drewsey	3.0	May-July	34	9
		3.2	May-Sept.	35	9
2175	Malheur, North Fork at Beulah ^d	12.0	May-July	33	36
		14.5	May-Sept.	38	38
1825	Owyhee Reservoir net Inflow ^k	25	May-July	168	15
		32	May-Sept.	186	17

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Bear Creek (Nev.)	7800	72	16.8	^b		- -	- -
Big Bend (Nev.)	6700	48	16.7	5/3/68	16.4 ^f	15.9 ^f	16.5 ^f
Blue Mtn. Springs	5900	42	16.9	5/31/68	12.2	13.1	11.4
Crane Prairie	5375	48	18.2	5/31/68	18.0	18.0	17.1
Folly Farm	4450	30	12.5	^b		- -	- -
Jack Cr., Lower (Nev.)	6800	48	8.6	4/30/68	8.3 ^f	8.3 ^f	8.1 ^f
Jordan Valley	4390	48	14.8	6/4/68	10.3	- -	- -
Mud Flat (Ida.)	5500	48	12.8	^b		- -	- -
Rodeo Flat (Nev.)	6800	42	11.0	5/3/68	10.9 ^f	9.2 ^f	11.0 ^f
Stinking Water Summit	4800	48	21.9	^b		- -	21.4 ^f
Taylor Canyon (Nev.)	6200	48	15.1	4/30/68	14.6 ^f	13.2 ^f	14.9 ^f
Triangle (Ida.)	5150	48	16.6	^b / _j		- -	- -

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (l) Ground measurement. (m) Average for 5 or more years in base period.

OWYHEE, MALHEUR WATERSHEDS





WATER SUPPLY OUTLOOK BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS OREGON

as of

JUNE 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK

The poorest water supplies in about thirty-five years are expected for Baker, Union and Wallowa County water users this summer. Most local stream levels will equal the record-low figures experienced in the early "thirties." The only exceptions are those streams flowing directly from the Wallowa Mountains which will vary from 60 to 86 percent of the 15-year average. Lands served from Unity Reservoir and Wallowa Lake will have barely sufficient water this season. All other areas will have extreme shortages.

PRECIPITATION and SNOW COVER

Precipitation from September 1, 1967 to May 1, 1968 has been only slightly better than half of the usual amount, except in the Wallowas where amounts are only one-fifth under the average according to data provided by the U. S. Weather Bureau. In the month of May precipitation was slightly better than half of the average.

Snowpacks have vanished except for that remaining on higher peaks and ridges.

RESERVOIR STORAGE

Unity Reservoir held about 19,600 acre feet at the end of May compared with 24,700 acre feet at this time last year.

Wallowa Lake still held 30,200 acre feet at the end of May. This is much more than the 22,300 acre feet held a year ago at this time.

STREAMFLOW

Expected streamflow for the remainder of the season is forecast as follows:

<u>Stream Station</u>	<u>Period</u>	<u>Acre Feet</u>	<u>Percent Average (1948-62)</u>
Burnt R. near Hereford	May-June	3,400	21
Powder R. near Baker	May-July	15,000	34
Eagle Cr. above Skull Cr.	May-July	100,000	72
Grande Ronde - La Grande	May-July	30,000	25
Catherine Cr. nr. Union	May-Sept.	35,000	60
Bear Cr. near Wallowa	May-Sept.	40,000	66
Lostine R. nr. Lostine	Apr.-Sept.	109,000	83
Hurricane Cr. nr. Joseph	Apr.-Sept.	40,000	83
East Fork Wallowa	May-July	7,600	86
Imnaha R. at Imnaha	Apr.-Sept.	250,000	79

WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair",
"Average" or "Excellent"

RESERVOIR STORAGE (1,000 Ac. Ft.) June 1, 1968

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Alder Slope	Spring peak flows are past.	Fair
Baker Valley		Poor
Big Creek		Poor
Clover Cr. (nr. N. Powder)		Poor
Cove		Poor
Durkee		Poor
Eagle Valley		Poor
Elgin		Poor
Enterprise-Joseph		Average
Hereford-Bridgeport		Average
Imnaha River		Fair
LaGrande-Island City		Poor
Lostine-Wallowa		Fair
No. Powder River-Wolf Cr.		Poor
Pine Valley		Fair
Powder River-Elk Creek		Poor
Summerville		Poor
Sumpter Valley		Poor
Union-Hot Lake		Poor
Unity		Poor

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Thief Valley	17.4	6	- -	- -
Unity	25.2	19.6	24.7	22.6
Wallowa Lake	37.5	30.2	22.3	27.2

STREAMFLOW FORECASTS^a(1,000 Ac. Ft.) as of June 1, 1968

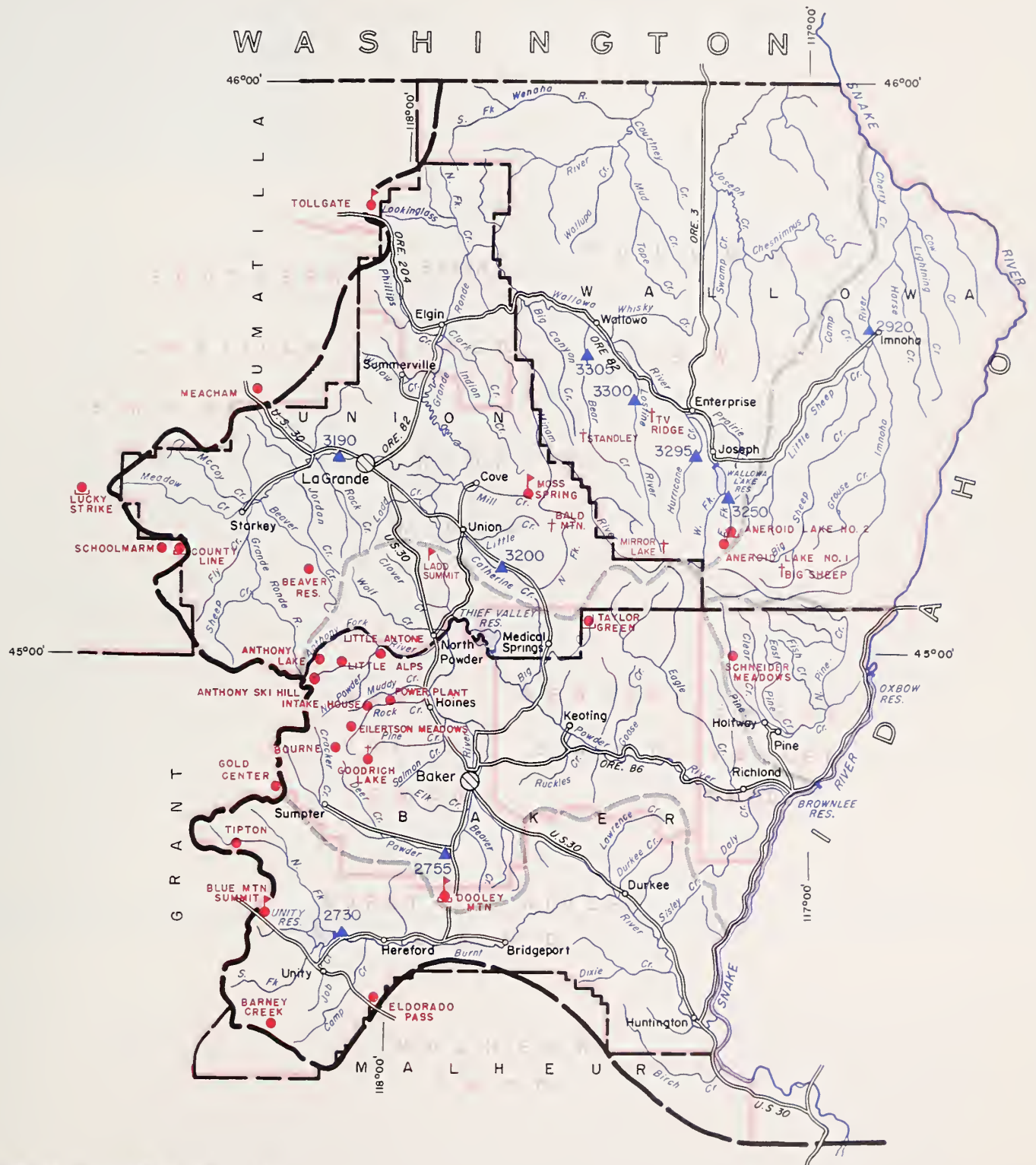
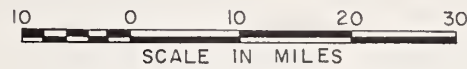
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE ⁱ
NO.	NAME				
3305	Bear near Wallowa	40	May-Sept.	61	66
2730	Burnt near Hereford ^d	3.4	May-June	16.0	21
		4.0	May-Sept.	17.8	22
3200	Catherine near Union	35	May-Sept.	58	60
2882	Eagle Creek above Skull Creek	100	May-July	139	72
		111	May-Sept.	154	72
3190	Grande Ronde at La Grande	30	May-July	118	25
		32	May-Sept.	121	26
3295	Hurricane Creek near Joseph	40	April-Sept.	48	83
2920	Imnaha at Imnaha	250	April-Sept.	318	79
3300	Lostine near Lostine	109	April-Sept.	131	83
2755	Powder River near Baker	15	May-July	44	34
		16	May-Sept.	45	36
3250	Wallowa, East Fork near Joseph ^d	7.6	May-July	8.8	86
		10.0	May-Sept.	11.2	89

SOIL MOISTURE

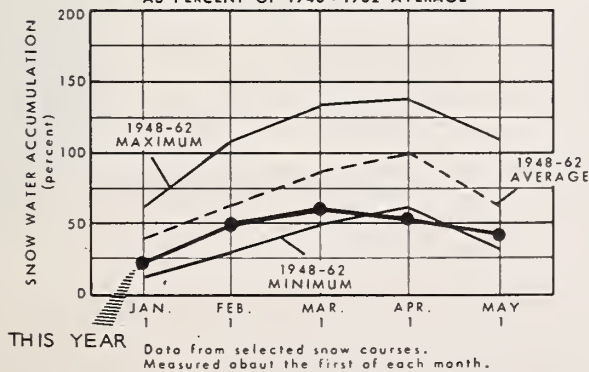
STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
		DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION						
Blue Mtn. Summit	5100	36	16.8	5/31/68	13.2	16.0	12.3
Dooley Mountain	5430	36	9.2	5/31/68	5.7	5.7	4.0
Emigrant Springs	3925	48	22.3	4/30/68	20.6 ^f	- -	18.0
Ladd Summit	3730	48	18.9	5/29/68	9.3	12.8	9.2
Moss Springs	5850	42	25.8	5/29/68	16.4	- -	- -
Tollgate	5070	48	23.6	5/29/68	18.4	19.4	18.5

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62, adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS



SNOW WATER ACCUMULATION IN AREA 2
AS PERCENT OF 1948 - 1962 AVERAGE



LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Soil Moisture Station
- Aerial Snow Depth Gage
- Precipitation Gage

"The Conservation of Water begins with the Snow Survey"



WATER SUPPLY OUTLOOK UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS

OREGON

as of

JUNE 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK

The poorest water supplies in about thirty-five years are expected for Umatilla, Morrow and Gilliam County water users this summer. Most streams in this area have already dropped to record-low levels experienced in the early "thirties." Available water in McKay and Cold Springs Reservoirs will be insufficient for a complete irrigation season. All other areas will have extreme shortages.

PRECIPITATION and SNOW COVER

Precipitation from September 1, 1967 to May 1, 1968 has been only slightly better than half of the usual amount. May brought only 72 percent of the average according to the U. S. Weather Bureau.

Mountain snowpacks vanished 20 to 40 days ago. Soils have dried out considerably but did receive some moisture in recent storms.

RESERVOIR STORAGE

Cold Springs reservoir held 32,800 acre feet on June first compared with 50,000 a.f. a year ago. McKay reservoir held 33,800 acre feet compared with 56,400 a.f. last year at this time.

STREAMFLOW

Flow of the Umatilla River at Pendleton was reported at 13,000 acre feet or only 20 percent of the average for May according to the U. S. Geological Survey.

Expected streamflow for the remainder of the season is forecast as follows:

<u>Stream</u>	<u>Period</u>	<u>Acre Feet</u>	<u>Percent Average (1948-62)</u>
Walla Walla, North Fork	May-July	2,700	24
Walla Walla, South Fork	May-July	26,000	59
Umatilla at Pendleton	May-July	25,000	27
McKay Creek	May-Sept.	2,000	14
Butter Creek	May-July	800	17

WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair",
"Average" or "Excellent"

RESERVOIR STORAGE (1,000 Ac. Ft.) June 1, 1968

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Walla Walla River, No. Fk.	Spring peak flows are past.	Poor
Walla Walla River, So. Fk.		Poor
Walla Walla River, Main		Poor
Walla Walla River, Little		Poor
Couse Creek		Poor
Dry Creek		Poor
Pine Creek		Poor
Umatilla River, Main		Poor
Wildhorse Creek		Poor
Umatilla R. (Cold Springs Reservoir)		Poor
Umatilla R. (McKay Res.)		Poor
McKay Creek		Poor
Birch Creek		Poor
Butter Creek		Poor
Willow Creek		Poor
Rhea Creek		Poor
Rock Creek (John Day tributary)		Poor

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Cold Springs	50.0	32.8	50.0	48.0 ^m
McKay	73.8	33.8	56.4	67.1

STREAMFLOW FORECASTS^a (1,000 Ac. Ft.) as of June 1, 1968

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT. OF AVERAGE ⁱ
NO.	NAME				
0320	Butter Creek near Pine City	0.8	May-July	4.7	17
0225	McKay near Pilot Rock	2.0	May-Sept.	14.1	14
0200	Umatilla River near Gibbon	12.8	May-July	52	25
		18.6	May-Sept.	58	32
0210	Umatilla River at Pendleton	25	May-July	92	27
		29	May-Sept.	97	30
0110	Walla Walla, No. Fork near Milton	2.7	May-July	11.1	24
		3.0	May-Sept.	11.7	26
0100	Walla Walla, So. Fork near Milton	26	May-July	44	59
		36	May-Sept.	58	62

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
		DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION						
Athena-Weston	1700	48	18.7	5/29/68	10.7	11.5	12.4
Battle Mtn. Summit	4340	48	13.8	4/29/68	12.4 ^f	- -	10.3
Emigrant Springs	3925	48	22.3	4/30/68	20.6 ^f	- -	18.0
Tollgate	5070	48	23.6	5/29/68	18.4	19.4	18.5

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS

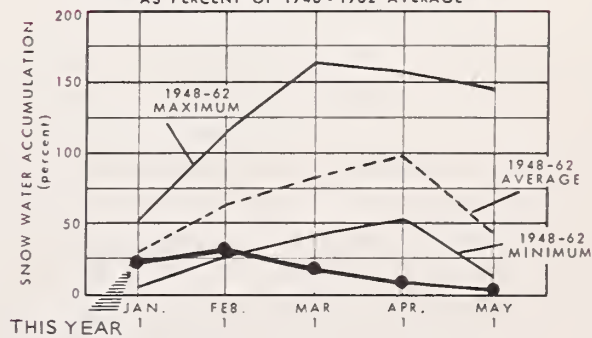
10 0 10 20 30
SCALE IN MILES



LEGEND

- Watershed Boundary
- - - Sub-watershed Boundary
- Soil Conservation District Bdry.
- - - County Boundary
- ▲ Forecast Point
- Snow Course
- ▼ Soil Moisture Station
- ⌈ Precipitation Gage

SNOW WATER ACCUMULATION IN AREA 3 AS PERCENT OF 1948-1962 AVERAGE



SNOW

"The Conservation of Water begins with the Snow Survey"



WATER SUPPLY OUTLOOK UPPER JOHN DAY WATERSHEDS

OREGON

as of

JUNE 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK

The poorest water supplies in about thirty-five years are expected for water users in the John Day Basin this summer. Most streams in this area have already dropped to record-low levels experienced in the early "thirties." Extreme water shortages appear to be unavoidable unless generous rainfall at frequent intervals is experienced.

PRECIPITATION and SNOW COVER

Precipitation from September 1, 1967 to May 1, 1968 in the John Day Basin was about two-thirds of the average. May brought only half (49 per cent) of the average precipitation according to the U. S. Weather Bureau.

Snowpacks vanished weeks ago and soil moisture has been reduced significantly by drying winds.

STREAMFLOW

Flow of the John Day River at Service Creek was reported at 88,900 acre feet or only 24 percent of the average for May, according to the U. S. Geological Survey.

Expected streamflow for the remainder of the season is forecast as follows:

<u>Stream Station</u>	<u>Period</u>	<u>Acre Feet</u>	<u>Percent Average (1948-62)</u>
John Day River at Prairie City	Apr.-July	16,000	35
Strawberry Creek	Apr.-July	4,300	53
John Day River, Middle Fork at Ritter	Apr.-July	41,000	32

WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair"
"Average" or "Excellent"

RESERVOIR STORAGE (1,000 Ac. Ft.) June 1, 1968

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Beech Creek	Spring peak flows are past.	Poor
Beech Creek-Fox-Long Cr.		Poor
Bridge-Mountain Creeks		Poor
Camas Creek		Poor
Cherry Creek		Poor
Indian-Pine Creeks		Poor
John Day River, Main Fork		Poor
John Day River, Mid. Fork		Poor
John Day River, N. Fork		Poor
John Day River, S. Fork		Poor
Monument-Kimberly		Poor
Strawberry Creek		Poor

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE

STREAMFLOW FORECASTS^a(1,000 Ac. Ft.) as of June 1, 1968

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE ⁱ
NO.	NAME				
0385	John Day at Prairie City	16	April-July	46	35
		20	April-Sept.	51	39
0440	John Day, Middle Fork at Ritter	41	April-July	127	32
		45	April-Sept.	131	34
0375	Strawberry near Prairie City	4.3	April-July	8.1	53
		5.0	April-Sept.	8.8	57

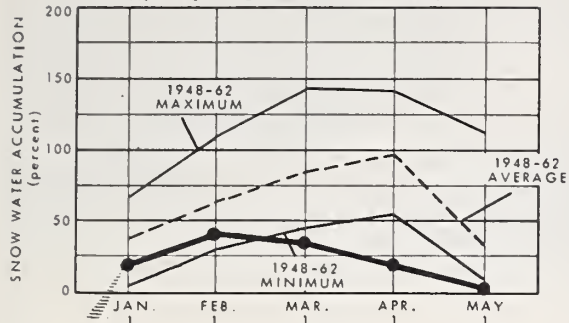
SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
		DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION						
Battle Mtn. Summit	4340	48	13.8	4/29/68	12.4 ^f	- -	10.3
Beech Creek	4800	48	21.3	5/29/68	15.0	15.9	14.2
Blue Mountain Springs	5900	42	16.9	5/31/68	12.2	13.1	11.4
Blue Mountain Summit	5100	36	16.8	5/31/68	13.2	16.0	12.3
Derr	5670	24	9.0	5/28/68	8.9	9.0	- -
Marks Creek	4540	36	14.1	5/28/68	11.7	13.4	12.9
Snow Mountain	6300	48	16.7	6/4/68	12.4	16.7	16.4
Starr Ridge	5150	36	10.6	5/31/68	10.4	10.4	9.0
Williams Ranch	4500	42	17.9	5/31/68	15.6	15.7	14.5

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

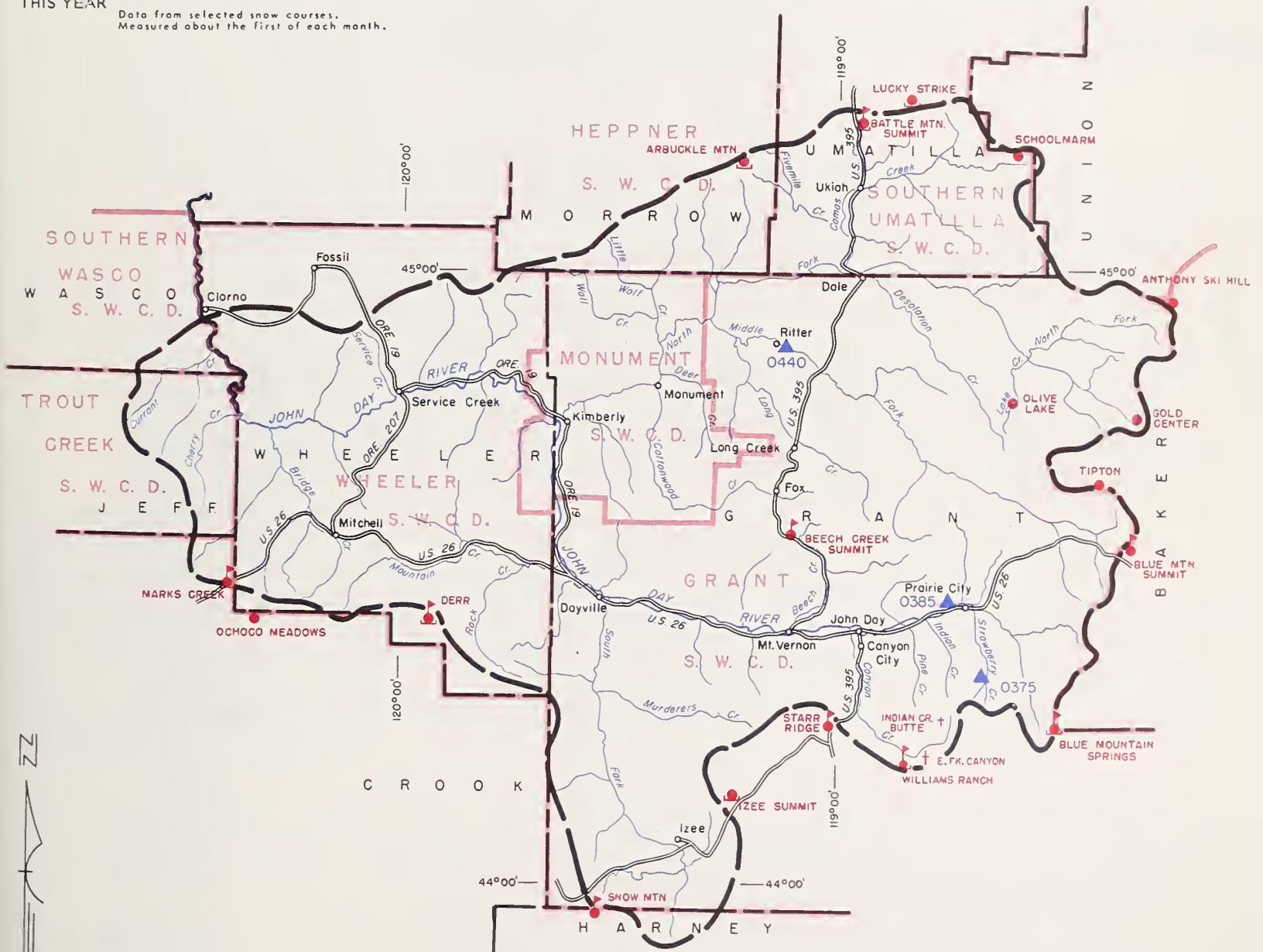
UPPER JOHN DAY WATERSHEDS

SNOW WATER ACCUMULATION IN AREA 4
AS PERCENT OF 1948-1962 AVERAGE



Data from selected snow courses.
Measured about the first of each month.

10 0 10 20 30
SCALE IN MILES



LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- ▲ Forecast Point
- Snow Course
- ▼ Soil Moisture Station
- † Aerial Snow Depth Gage
- Precipitation Gage

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1948-62 AVERAGE
Olive Lake	6000	5/29	0	0.0	--	--

WATER SUPPLY OUTLOOK UPPER DESCHUTES, CROOKED WATERSHEDS OREGON

as of

JUNE 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK

The poorest water supplies in about twenty-five years are expected for water users of Deschutes, Jefferson and Crook Counties this summer. Most streams in this area are already at low levels of flow but can be expected to drop further to the record-low levels experienced in 1941 and 1931. Reservoired water is insufficient to furnish a full supply except in Prineville Reservoir.

PRECIPITATION and SNOW COVER

Precipitation from September 1, 1967 to May 1, 1968 in this area was about half of the average. May brought near average amounts according to the U.S. Weather Bureau. Scattered snow is present only in the high Cascades and will provide only negligible additions of runoff. Soils have already been dried considerably by cool winds.

RESERVOIR STORAGE

Total stored water supplies are generally one-third less than a year ago at this date. Wickiup held about 138,000 acre feet on June first, compared with 144,900 a.f. last year. Crane Prairie held 27,800 a.f. compared with 34,400 a.f. and Crescent Lake contained 46,800 a.f. compared with 59,800 the previous year. Lands served from these reservoirs are also dependent upon natural flow of the Deschutes River which will be less than half of its usual flow this season.

Ochoco Reservoir held only 13,000 acre feet on June first compared with 38,400 a.f. a year ago. This is insufficient water for the summer season. However, some water from Prineville will be available for some of these Ochoco lands. Prineville Reservoir holds 109,600 acre feet compared with 152,200 a.f. a year ago and is sufficient for lands it will serve this year.

STREAMFLOW

Flow of the Deschutes River at Benham Falls, May through September, is forecast at 260,000 acre feet or 48 percent of the average. Swalley Canal and Central Oregon Irrigation District have first rights to this water and these rights will be satisfied. Later rights for Lone Pine, Arnold, North Unit and secondary rights for C.O.I. will have only a limited supply.

Squaw and Tumalo Creeks are forecast to produce 36,000 and 38,000 acre feet, respectively, in the April through September period. These flows are only slightly higher than the low flows experienced in 1941.

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WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair"
"Average" or "Excellent"

RESERVOIR STORAGE (1,000 Ac. Ft.)

June 1, 1968

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Arnold Irrigation District	Spring peak flows are past.	Fair
Bear Creek		Poor
Beaver Creek		Poor
Camp Creek		Poor
Central Ore. Irrig. Dist.		Fair
Crooked River		Poor
Deschutes River		Poor
Hay-Trout Creeks		Poor
Lone Pine Irrig. Dist.		Fair
Mill Creek		Poor
North Unit Irrig. Dist.		Poor
Ochoco Creek		Poor
Sisters Irrigation Dist.		Poor
Snow Creek Irrig. Dist.		Fair
Squaw Creek Irrig. Dist.		Fair
Swalley Ditch		Average
Tumalo Project		Fair
Walker Basin Irrig. Dist.		Poor

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Crane Prairie	55.3	27.8	34.4	44.4
Crescent Lake	86.9	46.8	59.8	48.1
Ochoco	47.5	13.0	38.4	39.2
Prineville	153.0	109.6	152.2	- -
Wickiup	200.0	138.0	144.9	169.9

STREAMFLOW FORECASTS^a(1,000 Ac. Ft.)

as of June 1, 1968

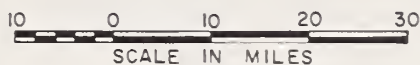
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE ⁱ
NO.	NAME				
0535	Crane Prairie Reservoir total Inflow	46	May-July	79	58
		74	May-Sept.	127	58
0600	Crescent at Crescent Lake ^d	5.6	May-July	22	25
		7.1	May-Sept.	29	24
0795	Crooked near Post	4.7	May-July	46	10
		5.0	May-Sept.	48	10
0645	Deschutes at Benham Falls ^d	149	May-July	328	45
		260	May-Sept.	541	48
0500	Deschutes below Snow Creek	28	May-Sept.	68	41
0630	Deschutes, Little near Lapine ^d	28	April-July	99	28
		31	April-Sept.	113	27
0848	Ochoco Reservoir net Inflow	0.5	May-Sept.	16.5	3
0555	Odell near Crescent	19	April-Sept.	34	56
0750	Squaw near Sisters	36	April-Sept.	56	64
0730	Tumalo near Bend ^d	38	April-Sept.	54	70

SOIL MOISTURE

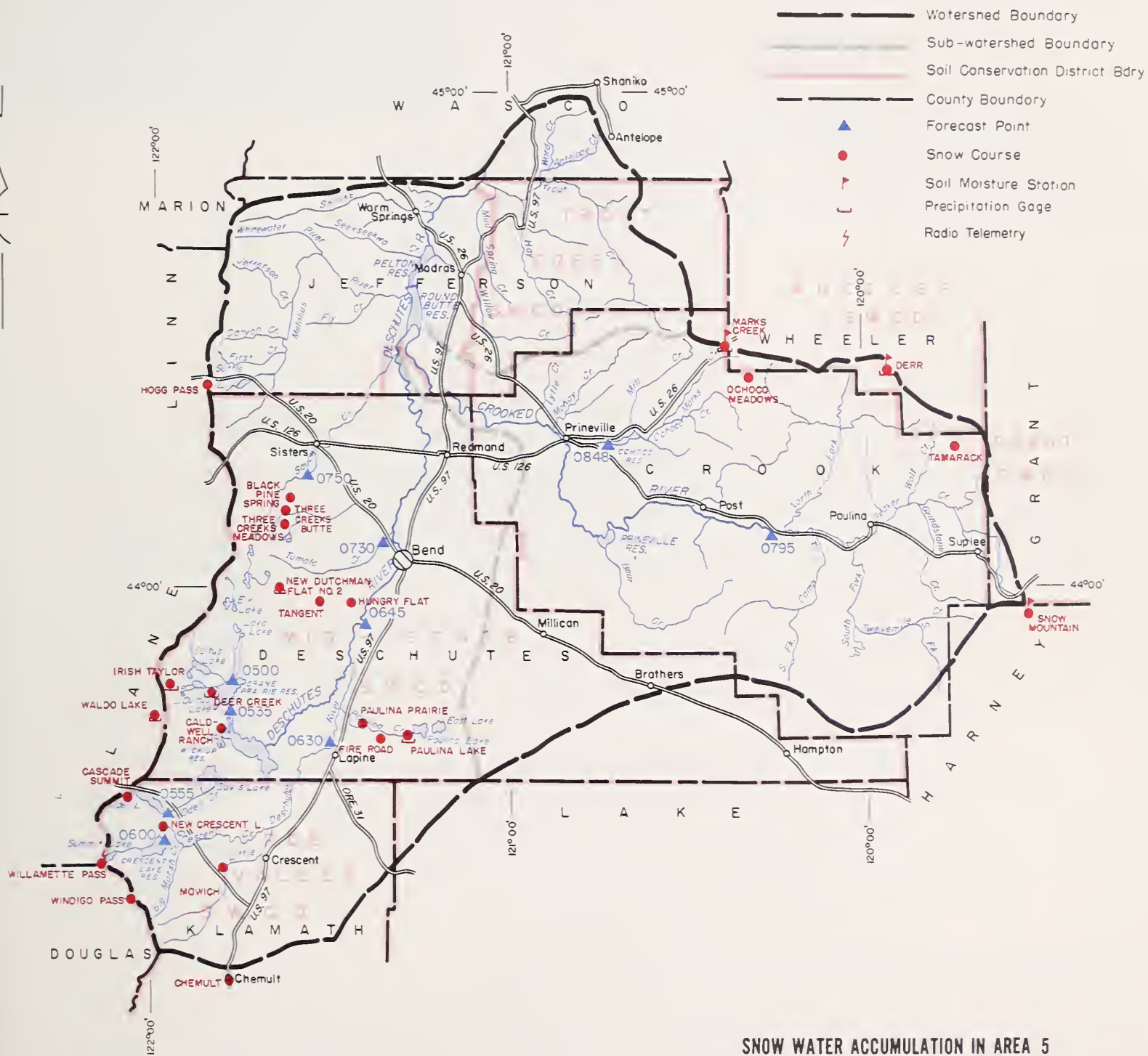
STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
		DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION						
Derr	5670	24	9.0	5/28/68	8.9	9.0	- -
Marks Creek	4540	36	14.1	5/28/68	11.7	13.4	12.9
Snow Mountain	6300	48	16.7	6/4/68	12.4	16.7	16.4

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

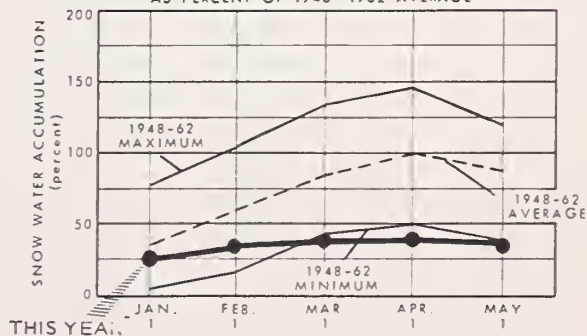
UPPER DESCHUTES, CROOKED WATERSHEDS



LEGEND



SNOW WATER ACCUMULATION IN AREA 5
AS PERCENT OF 1948 - 1962 AVERAGE



Data from selected snow courses.
Measured about the first of each month.

Upper Deschutes, Crooked Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1948-62 AVERAGE
Cascade Summit	4880	5/29	0	0.0	0.0	7.8
Cascade Summit (Alternate)	4880	5/29	0	0.0	--	--
Hogg Pass	4755	6/3	0	0.0	17.2	--
Hungry Flat	4400	5/27	0	0.0	0.0	--
New Dutchman Flat #2	6400	5/27	30	16.2	27.2	--
Tangent	5400	5/27	0	0.0	0.0	--

"The Conservation of Water begins with the Snow Survey"



WATER SUPPLY OUTLOOK HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS

OREGON

as of

JUNE 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK

The poorest water supplies in about twenty-five years are expected for water users of Hood River and Wasco Counties this summer. Most streams in this area are already at very low levels of flow but can be expected to drop further to extreme low levels recorded in the early 1940s. The water supply situation remains critical.

PRECIPITATION and SNOW COVER

Precipitation from September 1, 1967 to May 1, 1968 in this area was about two-thirds of the average. May brought near average (93 percent) amounts according to the U. S. Weather Bureau.

Mountain snowpacks vanished weeks ago except for highest elevations where snow melt will affect only those tributaries heading high on the mountains.

STREAMFLOW

Flow of major streams in this area is expected to be half of the 15-year average or even less. Forecasts are as follows:

<u>Stream Station</u>	<u>Period</u>	<u>Acre Feet</u>	<u>Percent Average (1948-62)</u>
White R. below Tygh Valley	May-Sept.	30,000	24
West Fork Hood River	May-Sept.	65,000	52
Hood R. near Hood River	May-Sept.	140,000	50

Flows of Mill Creek, the Mile Creeks and other small streams will be extremely negligible this summer.

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair", "Average" or "Excellent"

RESERVOIR STORAGE (1,000 Ac. Ft.) June 1, 1968

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Aldridge Ditch (Tony Creek)	Spring peak flows are past.	Poor
Badger Creek		Poor
Dee Irrigation District		Poor
East Fork Irrig. Dist.		Poor
Farmers Irrigation Dist.		Poor
Hood River Irrig. Dist.		Poor
Juniper Flat		Poor
Middle Fork Irrig. Dist.		Poor
Mile Creeks		Poor
Mill Creek		Poor
Mount Hood Irrig. Dist.		Poor
Rock-Gate-Threemile Crs.		Poor
Tygh Creek		Poor
White River		Poor

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Clear Lake	11.9	3.6	3.4	- -

STREAMFLOW FORECASTS^a(1,000 Ac. Ft.) as of June 1, 1968

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE ⁱ
NO.	NAME				
1210	Hood near Hood River ^d	100	May-July	218	46
1185	Hood, West Fork near Dee	140	May-Sept.	278	50
		50	May-July	101	50
		65	May-Sept.	125	52
1015	White below Tygh Valley	26	May-July	108	24
		30	May-Sept.	126	24

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1948-62 AVERAGE
Clear Lake	3500	5/29	0	0.0	0.0	- -
Clear Lake (Experimental	3500	5/29	0	0.0	0.0	- -
Phlox Point	5400	5/20	30	14.5	36.2	45.3
Still Creek	3670	5/29	0	0.0	2.5	0.9
Umbrella Falls	5400	6/1	29	15.2	- -	- -

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

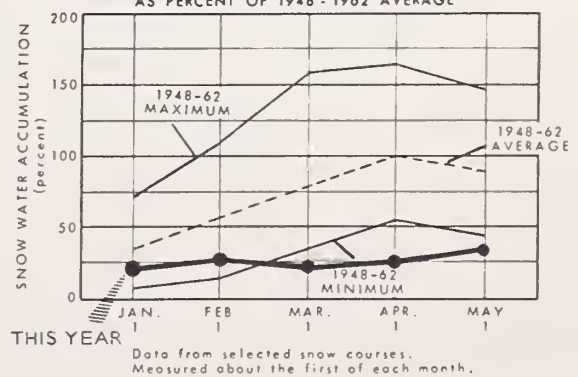
HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS



LEGEND

- Watershed Boundary
- - - Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- ▲ Forecast Point
- Snow Course
- † Aerial Snow Depth Gage
- ┐ Soil Moisture Station
- └ Precipitation Gage
- q Temperature Gage
- ⚡ Radio Telemetry

SNOW WATER ACCUMULATION IN AREA 6 AS PERCENT OF 1948-1962 AVERAGE





WATER SUPPLY OUTLOOK LOWER COLUMBIA WATERSHEDS OREGON

as of

JUNE 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK

May was a month of mixed weather in the Columbia Basin. Precipitation was generally below average except for near average to above average conditions in the Upper Columbia portion in British Columbia, the Upper Flathead Basin in Montana and on the Snake River above American Falls, Idaho. Generally, streamflow to date has been below normal reflecting the poor snowpack in most of the basins and delayed snowmelt at the higher elevations. Streamflow outlook in Oregon and southern tributaries to the Snake in Idaho continues to be extremely poor. Extensive use will be made of reservoir water in the basin. The U. S. Weather Bureau, River Forecast Center is forecasting probable stages of 14 to 17 feet on the Columbia at Vancouver, Washington with such regulation as is available.

SNOW COVER

In general, snowmelt at the higher elevations was slower than usual and to some extent this has delayed the streamflow yet to come. However, most median and all low elevation snow has melted. In British Columbia, Montana, northern Washington and eastern and southeastern Idaho, June 1 snow surveys at the higher key snow courses indicate a near normal to above normal snowpack. Elsewhere in the basin, particularly in Oregon and southwestern Idaho, the remaining snow at the higher elevations is much below average.

STREAMFLOW

Flow of the Columbia River at The Dalles, Oregon, as reported by the U. S. Geological Survey, was slightly below average during the fall. In February and March the flow was moderately above average, reflecting unseasonable mid-winter snowmelt and rain. April and May were well below normal. The record by months for the 1968 water year to date was as follows:

Month	Percent of Average Discharge (1948-62)			
October	96	(Adjusted for Storage)		
November	99	"	"	"
December	88	"	"	"
January	96	"	"	"
February	129	"	"	"
March	118	"	"	"
April	58	"	"	"
May	65	"	"	"

The May-September forecast of the Columbia River at The Dalles is 80,600,000 acre-feet or 85 percent of average.

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STREAMFLOW FORECASTS^a(1,000 Ac. Ft.) as of June 1, 1968

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE ⁱ
NO.	NAME				
1057	Columbia at The Dalles	80,600	May-Sept.	94,841	85

HISTORICAL DATA (Columbia River at The Dalles)

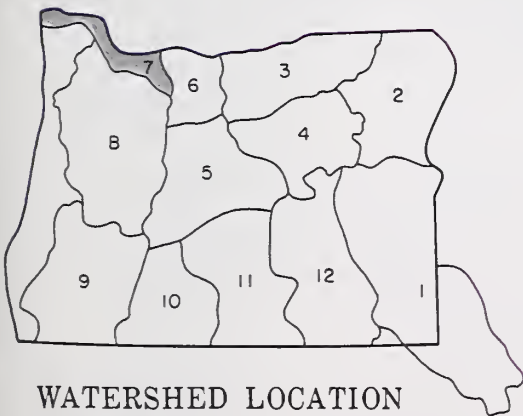
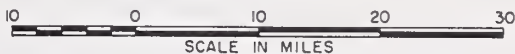
YEAR	STREAMFLOW ^d (1,000 A.F.)			PEAK (1,000 c.f.s.)	DATE
	APR. - SEPT.	APR. - JUNE	MAY - JUNE		
1943	115,000	75,300	52,400	541	June 21
1944	61,900	39,200	32,100	326	June 19
1945	81,600	54,600	47,300	505	June 8
1946	108,100	75,400	59,600	581	May 30
1947	100,300	70,000	56,800	536	May 11
1948	130,500	94,600	81,900	999	May 31
1949	95,700	71,400	56,000	622	May 18
1950	120,400	74,700	61,200	744	June 25
1951	113,000	75,600	59,100	597	May 26
1952	107,700	77,500	57,300	557	May 28
1953	100,600	64,900	55,800	609	June 17
1954	119,500	70,500	59,300	561	May 23
1955	99,500	58,300	50,300	545	June 26
1956	131,400	96,900	75,800	815	June 3
1957	105,700	80,500	67,200	700	May 22
1958	97,700	72,000	58,600	593	May 31
1959	112,500	71,900	58,900	555	June 23
1960	97,000	64,000	48,000	442	June 6
1961	101,400	74,400	64,000	699	June 8
1962	94,600	64,100	49,200	460	June 5
1948-62 Avg.	108,500	74,100	60,200	633	
1963	87,000	56,300	46,200	437	June 18
1964	109,020	70,739	61,313	662	June 18

LOWER COLUMBIA RIVER FLOOD STAGES (with 9.5' tide at Astoria)

VANCOUVER GAGE (Weather Bu.)	FLOW AT THE DALLES (1,000 c.f.s.)	DRAINAGE DISTRICT PUMPHOUSE						
		SANDY	SAUVIE ISL.	SCAPPOOSE	DEER ISL.	RAINIER	BEAVER	WOODSON
		RIVER MILES						
		118.9	96.0	91.0	77.0	62.0	52.0	47.0
35 (1894)	1210	41.2	34.2	33.3	28.5	21.9	17.5	15.5
34	1160	40.5	33.5	32.5	27.7	21.2	17.0	15.0
33	1100	39.6	32.4	31.4	26.7	20.2	16.1	14.3
32	1050	38.9	31.5	30.5	25.7	19.5	15.4	13.7
31 (1948)	1000	38.0	30.7	29.5	25.1	18.8	14.7	13.0
30	943	36.6	29.5	28.5	24.3	18.1	14.0	12.4
29	897	35.5	28.5	27.7	23.7	17.5	13.4	11.8
28	853	34.3	27.5	26.7	22.8	17.0	13.0	11.4
27 (1956)	811	33.0	26.5	25.6	21.8	16.2	12.5	11.0
26 (1950)	771	32.1	25.5	24.6	20.9	15.5	12.2	10.7
25	733	30.7	24.2	23.2	19.7	14.6	11.7	10.3
24	697	29.7	23.0	22.2	19.0	14.1	11.4	10.2
23	662	29.0	22.3	21.4	18.4	13.6	11.2	10.0
22	628	28.1	21.4	20.3	17.2	13.0	10.9	9.7
21	595	27.2	20.7	19.5	16.4	12.6	10.6	9.6
20 (1954)	564	26.2	19.8	18.6	15.5	12.1	10.2	9.4
19	534	25.5	19.2	18.0	15.0	11.8	10.0	9.3
18	501	24.4	18.3	17.2	14.3	11.4	9.8	9.1
17	479	23.4	17.4	16.4	13.7	11.0	9.6	8.9
16	452	22.4	16.5	15.5	13.0	10.5	9.3	8.7

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records.

LOWER COLUMBIA WATERSHEDS



LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- 50 River Miles
- Snow Course
- 9 Temperature
- ⚡ Radio Telemetry

COLUMBIA RIVER BASIN



"The Conservation of Water begins with the Snow Survey"



WATER SUPPLY OUTLOOK WILLAMETTE WATERSHEDS OREGON

as of

JUNE 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK

Streamflow in Willamette Valley for the summer of 1968 is forecast to be about half the usual volume and water supplies will be seriously short except where stored or ground water supplies are available. Stream levels will be highly similar to those measured in 1940 and 1941.

PRECIPITATION and SNOW COVER

Precipitation from September 1, 1967 to May 1, 1968 in this region has been about 90 percent of the average. May brought rainfall totaling slightly above average (106 percent) according to the U. S. Weather Bureau.

Snowpacks vanished several weeks ago and only patches remain at high elevations on peaks and ridges. Although soil moisture improved greatly in the past two weeks it is still short of the amount present one year ago.

RESERVOIR STORAGE

Water stored in multiple-purpose reservoirs of Willamette Basin is close to peak amounts, having gained a real "boost" from the storms over the Memorial Day weekend. Many of these reservoirs contain "blocks" of stored water which can be made available for irrigation purposes.

STREAMFLOW

Most Oregon streams have never really "recovered" from last year's hot, dry summer and Willamette streams are no exception. For instance, the flow of the Middle Fork of the Willamette below the North Fork during May was reported by the U. S. Geological Survey to be 109,900 acre feet or only 41 percent (less than half) of the average. Precipitation was slightly above normal in this same period.

Expected flows of some typical Willamette streams are forecast as follows:

<u>Stream Station</u>	<u>Period</u>	<u>Acre Feet</u>	<u>Percent Average (1948-62)</u>
Clackamas at Estacada	Apr.-Sept.	500,000	56
North Santiam at Mehama	Apr.-Sept.	555,000	56
McKenzie at McK. Bridge	Apr.-Sept.	390,000	59
South Santiam at Waterloo	Apr.-Sept.	330,000	49
Willamette, Mid. Fk. below North Fork	Apr.-Sept.	430,000	44
Willamette at Salem	Apr.-Sept.	2,950,000	53

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WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair"
"Average" or "Excellent"

RESERVOIR STORAGE (1,000 Ac. Ft.) June 1, 1968

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Calapooya		Poor
Clackamas		Poor
McKenzie		Poor
Molalla		Poor
Santiam, North		Poor
Santiam, South		Poor
Willamette, Coast Fork		Poor
Willamette, Middle Fork		Poor

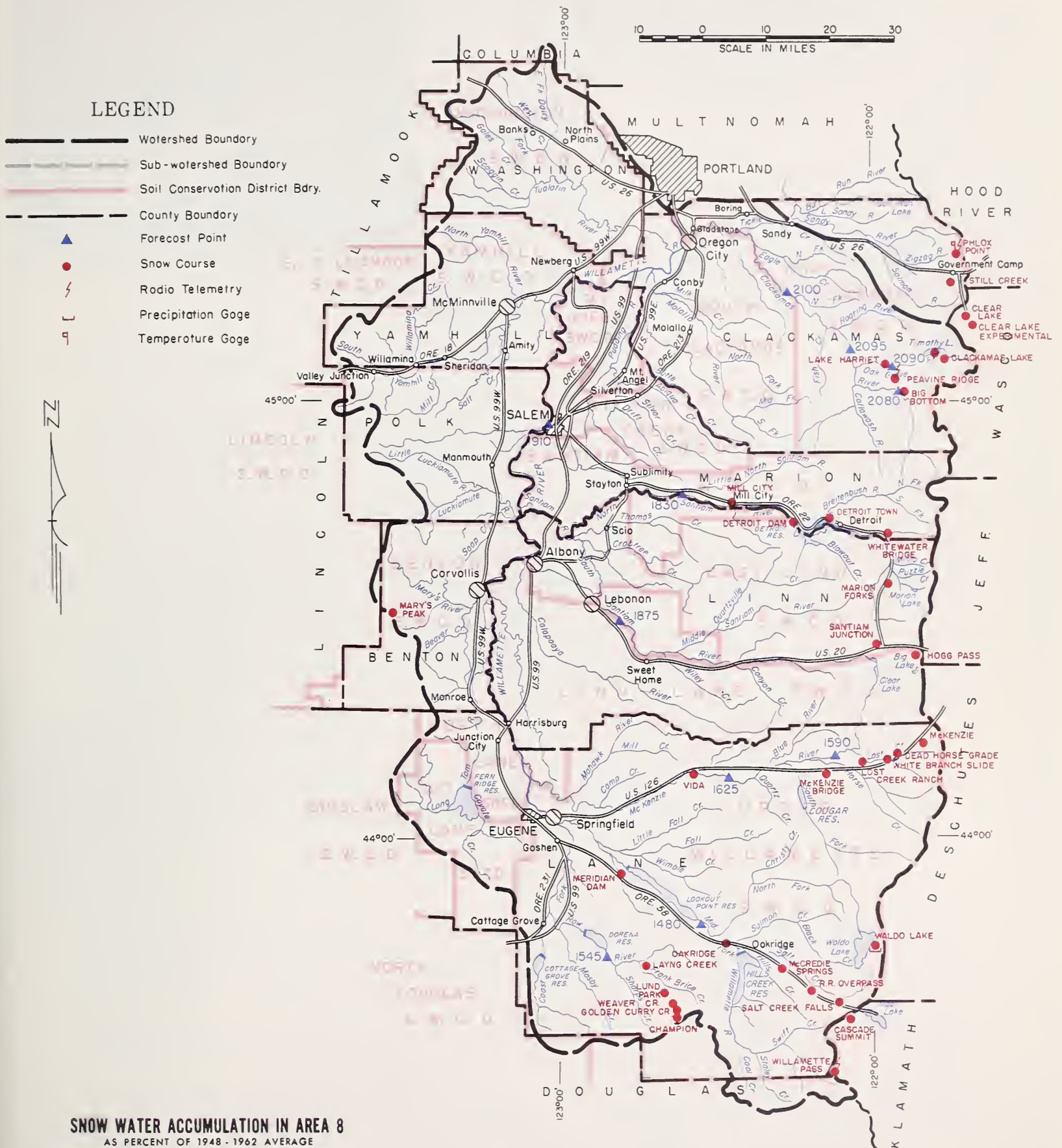
RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Cottage Grove	30.0*	22.0	29.1	28.7
Cougar	155.2*	132.2	127.1	- -
Detroit	299.9*	288.2	262.3	268.2 ^m
Dorena	70.5*	66.0	65.6	64.8 ^m
Fall Creek	115.0*	104.1	107.8	- -
Fern Ridge	94.2*	95.0	96.6	90.9
Foster	30.0*	22.0	- -	- -
Green Peter	270.0*	253.9	- -	- -
Hills Creek	200.0*	170.4	184.0	- -
Lookout Point	337.2*	226.9	270.5	296.0 ^m
Timothy Lake	61.7	63.5	61.1	58.9 ^m
*Multiple purpose reservoir--space reserved primarily for flood control.				

STREAMFLOW FORECASTS^a(1,000 Ac. Ft.) as of June 1, 1968

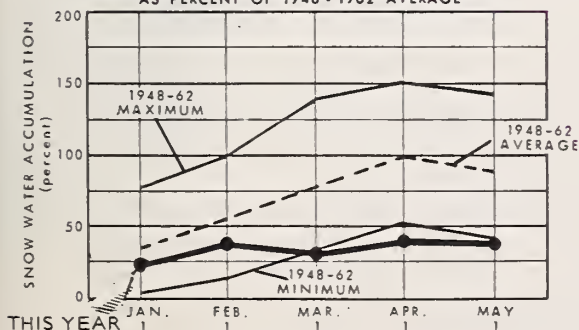
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE ⁱ
NO.	NAME				
2080	Clackamas at Big Bottom	80	April-July	150	53
		100	April-Sept.	184	54
2100	Clackamas at Estacada	420	April-July	770	54
		500	April-Sept.	890	56
2095	Clackamas above Three Lynx	320	April-July	584	55
		385	April-Sept.	683	56
1590	McKenzie at McKenzie Bridge	280	April-July	502	56
		390	April-Sept.	658	59
1625	McKenzie near Vida	690	April-July	1144	60
		860	April-Sept.	1392	62
2090	Oak Grove Fork above Power Intake	90	April-July	147	61
		120	April-Sept.	190	61
1545	Row near Dorena	56	April-July	108	52
		61	April-Sept.	112	54
1830	Santiam, North at Mehama ^d	460	April-July	884	52
		555	April-Sept.	991	56
1875	Santiam, South at Waterloo	305	April-July	637	48
		330	April-Sept.	675	49
1480	Willamette, Mid. Fk. blw. N. Fk. nr. Oakridge ^d	340	April-July	863	39
		430	April-Sept.	968	44
1910	Willamette at Salem ^d	2450	April-July	5040	49
		2950	April-Sept.	5566	53

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

WILLAMETTE WATERSHEDS



SNOW WATER ACCUMULATION IN AREA 8 AS PERCENT OF 1948 - 1962 AVERAGE



Data from selected snow courses.
Measured about the first of each month.

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1948-62 AVERAGE
Cascade Summit	4880	5/29	0	0.0	0.0	7.8
Cascade Summit (Alternate)	4880	5/29	0	0.0	- -	- -
Clear Lake	3500	5/29	0	0.0	0.0	- -
Clear Lake (Experimental)	3500	5/29	0	0.0	0.0	- -
Detroit City	1610	6/3	0	0.0	0.0	- -
Detroit Dam	1580	6/3	0	0.0	0.0	- -
Hogg Pass	4755	6/3	0	0.0	17.2	- -
Marion Forks	2730	6/3	0	0.0	0.0	- -
McCredie Springs	2120	5/29	0	0.0	0.0	- -
Meridian Dam	750	5/29	0	0.0	0.0	- -
Mill City	826	6/3	0	0.0	0.0	- -
Oakridge	1310	5/29	0	0.0	0.0	- -
Phlox Point	5400	5/29	30	14.5	36.2	45.3
Railroad Overpass	2750	5/29	0	0.0	0.0	- -
Salt Creek Falls	4000	5/29	0	0.0	0.0	- -
Santiam Junction	3990	6/3	0	0.0	0.0	- -
Still Creek	3670	5/29	0	0.0	2.5	0.9
Whitewater Bridge	2175	6/3	0	0.0	0.0	- -

"The Conservation of Water begins with the Snow Survey"



WATER SUPPLY OUTLOOK ROGUE, UMPQUA, WATERSHEDS OREGON

as of

JUNE 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK

Streamflow in the Rogue and Umpqua Basins during the summer of 1968 is forecast to beat the lowest levels since the early 1940s. Water supplies will be poor except for the Talent, Table Rock, Gold Hill and Grants Pass Irrigation Districts which will have fair supplies.

PRECIPITATION and SNOW COVER

Precipitation from September 1, 1967 to May 1, 1968 has been close to two-thirds of average. May precipitation was average according to the U.S. Weather Bureau. Dry soils absorbed most of the precipitation with only a slight pick up in stream levels.

Snowpacks are now gone with patches remaining only on the high peaks and ridges.

RESERVOIR STORAGE

The combined storage in Fish Lake and Fourmile is 8,800 acre feet. This is less than last year at this time. Emigrant Lake, Howard Prairie and Hyatt Lake are storing 76,700 acre feet compared to last year's 111,700 acre feet.

STREAMFLOW

The runoff during May for the Rogue at Raygold was 107,600 acre feet. This is only forty percent of average. There is little chance of significant increases in amounts of streamflow now unless frequent and generous rain-fall occurs.

Expected summer flows for some streams in the Rogue and Umpqua Basins are as follows:

<u>Stream Station</u>	<u>Period</u>	<u>Acre Ft.</u>	<u>Percent Avg. (1948-62)</u>
Applegate near Copper	Apr.-Sept.	80,000	56
Illinois at Kerby	Apr.-Sept.	115,000	54
Rogue at Raygold	May-Sept.	370,000	51
Umpqua, North below Lemolo Res. nr Toketee Falls	Apr.-Sept.	120,000	64

The Grants Pass Irrigation District will probably have to go on canal alternation about July 10th.

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WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair",
"Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Althouse Creek	Spring peak flows are past.	Poor
Applegate River, Big		Fair
Applegate River, Little		Fair
Ashland Creek		Fair
Butte Creek, Big		Poor
Butte Creek, Little		Poor
Cow Creek		Poor
Deer Creek		Poor
Elk Creek		Poor
Emigrant Creek (abv. Res.)		Poor
Evans Creek		Poor
Gold Hill Irrigation Dist.		Fair
Grants Pass Irrig. Dist.		Fair
Grave Creek		Poor
Illinois River, East Fork		Fair
Illinois River, West Fork		Fair
Jump-off-Joe Creek		Poor
Neil Creek		Fair
Red Blanket Creek		Poor
Rogue River		Fair
Sucker Creek		Poor
Table Rock Irrig. Dist.		Fair
Thompson Creek		Poor
Wagner Creek		Fair
Williams Creek		Poor

RESERVOIR STORAGE (1,000 Ac. Ft.) June 1, 1968

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Emigrant Lake	39.0	28.0	38.1	35.6*
Fish Lake	7.8	3.7	5.8	7.0
Fourmile Lake	16.1	5.1	- -	12.8
Howard Prairie	60.0	37.9	57.4	- -
Hyatt Prairie	16.1	10.8	16.2	14.0
*Average for years of record after reconstruction.				

STREAMFLOW FORECASTS^a (1,000 Ac. Ft.) as of June 1, 1968

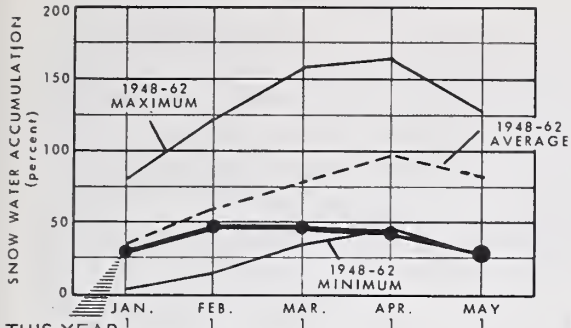
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT. OF AVERAGE ⁱ
NO.	NAME				
3620	Applegate near Copper	80	April-Sept.	142	56
3145	Clearwater above Trap Creek ^d	43	May-Sept.	62	69
5045	Fourmile Lake net Inflow ^d	2.8	April-Sept.	5.4	52
5140	Hyatt Reservoir net Inflow ^d	0.8	May-Sept.	2.7	30
3771	Illinois River near Kerby	110	April-July	206	53
		115	April-Sept.	212	54
3425	Little Butte, N. Fk. at Fish Lk. nr. Lake Cr. ^d	7.0	April-Sept.	16.0	44
3415	Little Butte, So. Fk. nr. Lake Creek	6.0	April-July	38	16
	Note: Minimum flow will drop to 100 c.f.s. by --.				
3280	Rogue above Prospect	110	May-July	212	52
		140	May-Sept.	272	51
3320	Rogue, South Fork near Prospect ^d	25	May-July	52	48
		30	May-Sept.	64	47
3350	Rogue River below South Fork	214	May-July	443	48
		314	May-Sept.	586	54
3590	Rogue at Raygold near Central Point	250	May-July	567	44
		370	May-Sept.	730	51
3615	Rogue at Grants Pass	350	May-Sept.	700	50
3135	Umpqua, No. blw. Lemolo Res. nr. Toketee Falls ^d	120	April-Sept.	186	64

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1948-62 AVERAGE
Billie Creek Divide	5300	5/27	0	0.0	0.0	- -
Diamond-Crater Summit	5800	5/27	0	0.0	7.8	- -
Diamond Lake	5315	5/27	0	0.0	0.8	- -

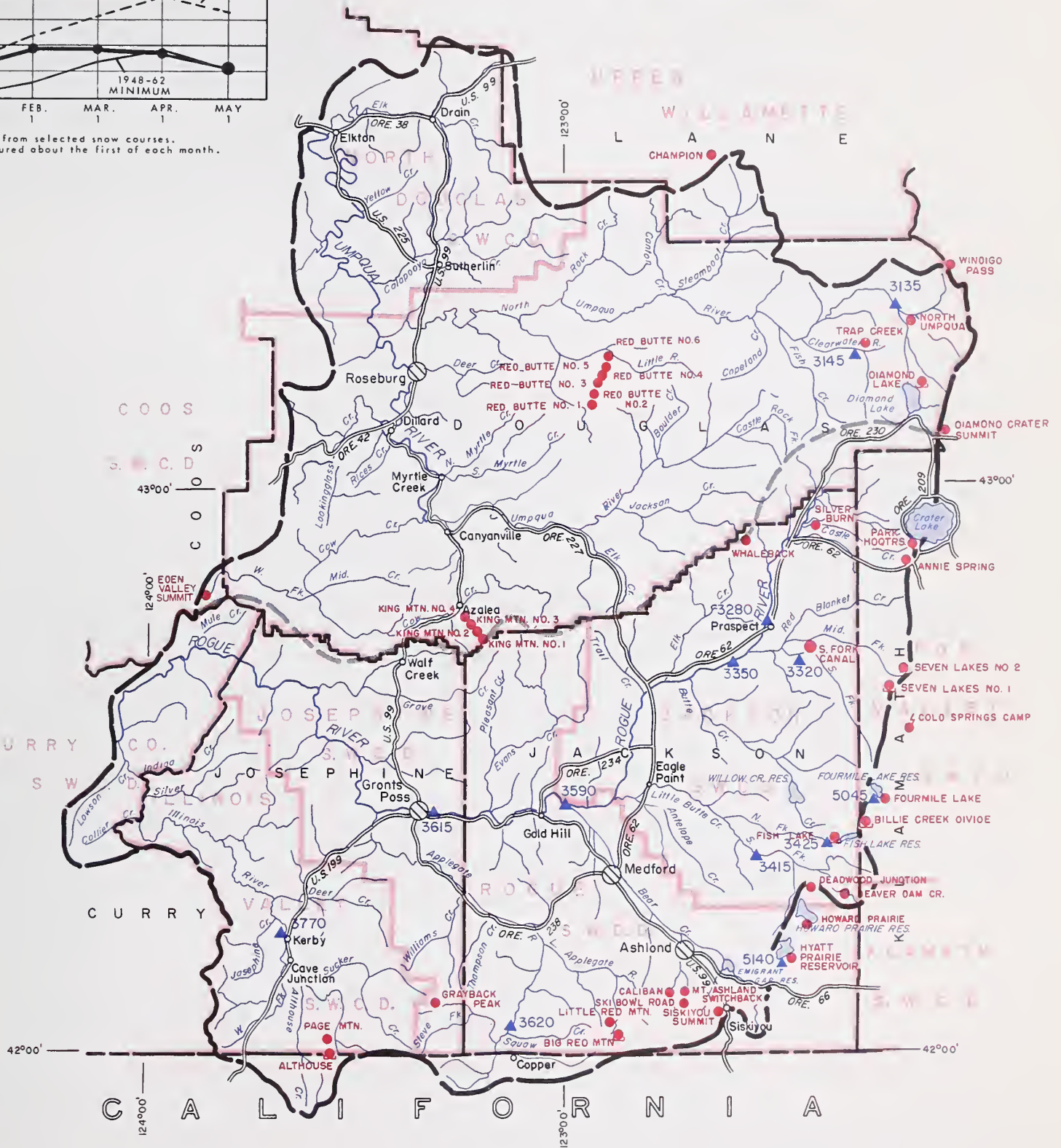
(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co., or USBR records. (m) Average for 5 or more years in base period.

SNOW WATER ACCUMULATION IN AREA 9 AS PERCENT OF 1948-1962 AVERAGE



Data from selected snow courses.
Measured about the first of each month.

ROGUE, UMPQUA WATERSHEDS



LEGEND

- Watershed Boundary
- - - Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- ▲ Forecast Point
- Snow Course
- ⌋ Precipitation Gage
- ⚡ Radio Telemetry

WATER SUPPLY OUTLOOK KLAMATH WATERSHEDS OREGON

as of
JUNE 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK

The poorest water supplies in about thirty-five years are expected for Klamath County water users this summer. An exception is the Klamath Project served by Clear Lake, Upper Klamath Lake and Gerber Reservoir which will have an average supply. Most local stream levels will approach the record-low figures experienced in the "thirties."

PRECIPITATION and SNOW COVER

Klamath County precipitation for the September 1967 to May 1, 1968 period was only two-thirds the usual amount. May precipitation was about average according to the U. S. Weather Bureau.

Snowpacks have disappeared except for that which remains at the very highest elevations.

RESERVOIR STORAGE

Upper Klamath Lake held 416,300 acre feet on June 1 compared to 560,200 acre feet last year on the same day. Clear Lake storage is currently 196,100 acre feet while Gerber contains 50,800 acre feet. These figures compare to last years 249,200 acre feet and 56,700 acre feet respectively.

STREAMFLOW

The May net inflow to Upper Klamath Lake was only 60,500 acre feet. This is 35 percent of the 1948-62 average.

Expected streamflow for the remainder of the runoff season, May through September, is as follows:

<u>Stream Station</u>	<u>1000's Acre Ft.</u>	<u>Percent Average (1948-62)</u>
Clear Lake Inflow	8.5	49
Gerber Reservoir Inflow	2.5	40
Upper Klamath Lake Inflow	235	54
Sprague R. near Chiloquin	90	47
Williamson R. blw. Sprague R.	191	57

WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair",
"Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Ft. Klamath Valley	Spring peak flows are past.	Poor
Lost River (Clear Lake)		Average
Lost River (Gerber)		Average
Lost River (Willow Res.)		Fair
Sprague River		Poor
Upper Klamath Lake		Average
Williamson River		Poor

RESERVOIR STORAGE (1,000 Ac. Ft.) June 1, 1968

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Clear Lake	440.2	196.1	258.9	249.2
Gerber	94.0	50.8	81.8	56.7
Upper Klamath Lake	584.0	416.3	560.2	541.4

STREAMFLOW FORECASTS^a(1,000 Ac. Ft.) as of June 1, 1968

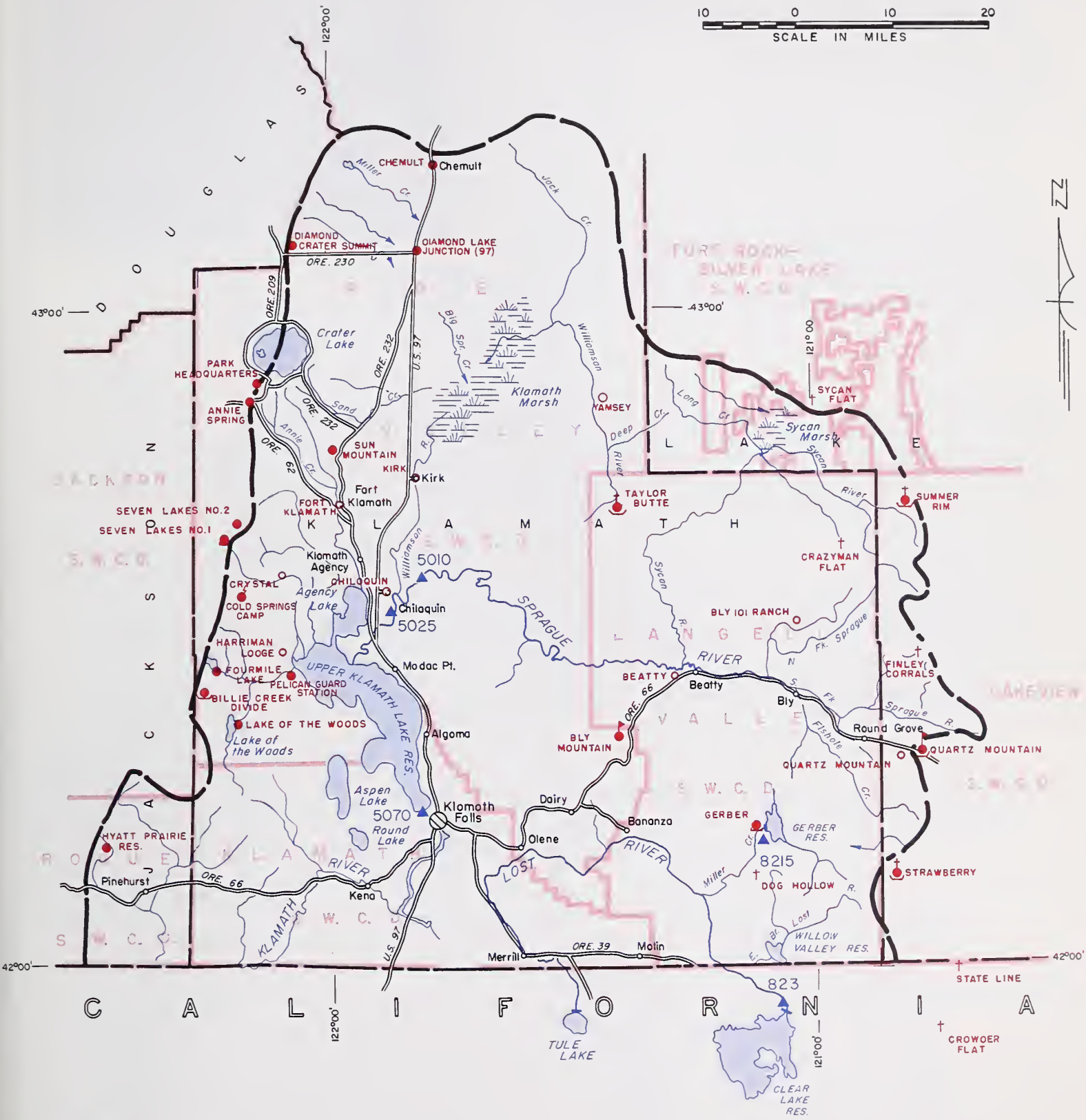
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT. OF AVERAGE ⁱ
NO.	NAME				
823	Clear Lake Reservoir Inflow ^k	8.5	May-Sept.	17.4	49
8215	Gerber Reservoir Inflow ^k	2.5	May-Sept.	6.2	40
5010	Sprague near Chiloquin	90	May-Sept.	190	47
5070	Upper Klamath Lake net Inflow ^k	235	May-Sept.	438	54
5025	Williamson below Sprague River	191	May-Sept.	336	57

SOIL MOISTURE

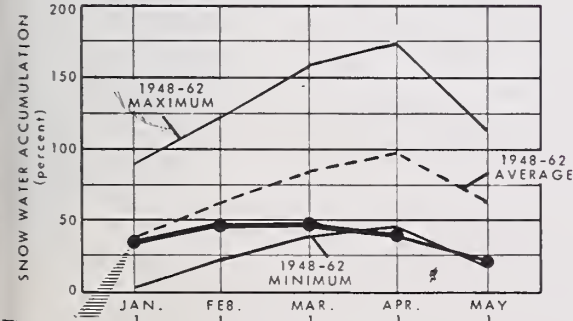
SOIL MOISTURE		PROFILE (Inches)		SOIL MOISTURE (Inches)			
STATION		DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION						
Bly Mountain	5090	42	14.0	5/28/68	10.1	12.4	10.5

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

KLAMATH WATERSHEDS



SNOW WATER ACCUMULATION IN AREA 10
AS PERCENT OF 1948-1962 AVERAGE



Data from selected snow courses.
Measured about the first of each month.

LEGEND

- Watershed Boundary
- - - Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- ▲ Forecast Point
- Snow Course
- † Aerial Snow Depth Gage
- COPCO Snow Station
- Soil Moisture Station
- ⌋ Precipitation Gage
- ⚡ Radio Telemetry

Klamath Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1948-62 AVERAGE
Billie Creek Divide	5300	5/27	0	0.0	0.0	--
Diamond-Crater Summit	5800	5/27	0	0.0	7.8	--
Diamond Lake Junction	4600	5/27	0	0.0	0.0	--
Quartz Mountain	5320	6/1	0	0.0	0.0	--
Quartz Mountain (PP&L)	5504	6/1	0	0.0	0.0	--
Sun Mountain	5350	5/27	0	0.0	0.5	--

"The Conservation of Water begins with the Snow Survey"



WATER SUPPLY OUTLOOK LAKE COUNTY, GOOSE LAKE WATERSHEDS OREGON

as of
JUNE 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK

This year's water supply in Lake County is expected to be one of the poorest that has occurred during the past thirty-five years. The only exception will be the fair supply furnished by the Lakeview Water Users Association from their reservoirs. Most local stream levels are expected to nearly equal the record-lows experienced during the "thirties."

PRECIPITATION and SNOW COVER

Precipitation during the September 1, 1967 to May 1, 1968 period has been about three-fourths the usual amount. May precipitation was two-thirds of average according to the U. S. Weather Bureau.

Snowpacks have vanished except for that remaining on the highest peaks and ridges.

RESERVOIR STORAGE

On June 1 Drews Reservoir contained 39,700 acre feet compared to 70,000 acre feet last year on this date. Cottonwood is holding 3,300 acre feet compared to last year's 8,700 acre feet.

STREAMFLOW

Expected streamflows for the April-September period are as follows:

<u>Stream Station</u>	<u>Acre Feet</u>	<u>Percent Average (1948-62)</u>
Chewaucan near Paisley	40,000	45
Deep Cr. above Adel	27,000	38
Drews Res. Inflow (May-Sept.)	2,000	18
Honey near Plush	3,600	22
Twentymile near Adel	4,500	20

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair", "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Chewaucan	Spring peak flows are past.	Poor
Crooked Creek		Poor
Deep Creek		Poor
Dry Creek		Poor
East Side Goose Lake		Poor
Guano Lake		Poor
Honey Creek		Poor
Lakeview Water Users Assn.		Fair
Rock Creek (Hart Mtn.)		Poor
Silver-Buck Creeks		Poor
Summer Lake		Poor
Thomas Creek		Poor
Twentymile Creek		Poor
Warner Lakes		Poor

RESERVOIR STORAGE (1,000 Ac. Ft.) June 1, 1968

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Cottonwood	8.7	3.3	8.7	6.5*
Drews	63.0	39.7	70.0	52.6
Thompson Valley	17.4	b	18.6	13.0 ^m
*Average for years of record after reconstruction.				

STREAMFLOW FORECASTS^a(1,000 Ac. Ft.) as of June 1, 1968

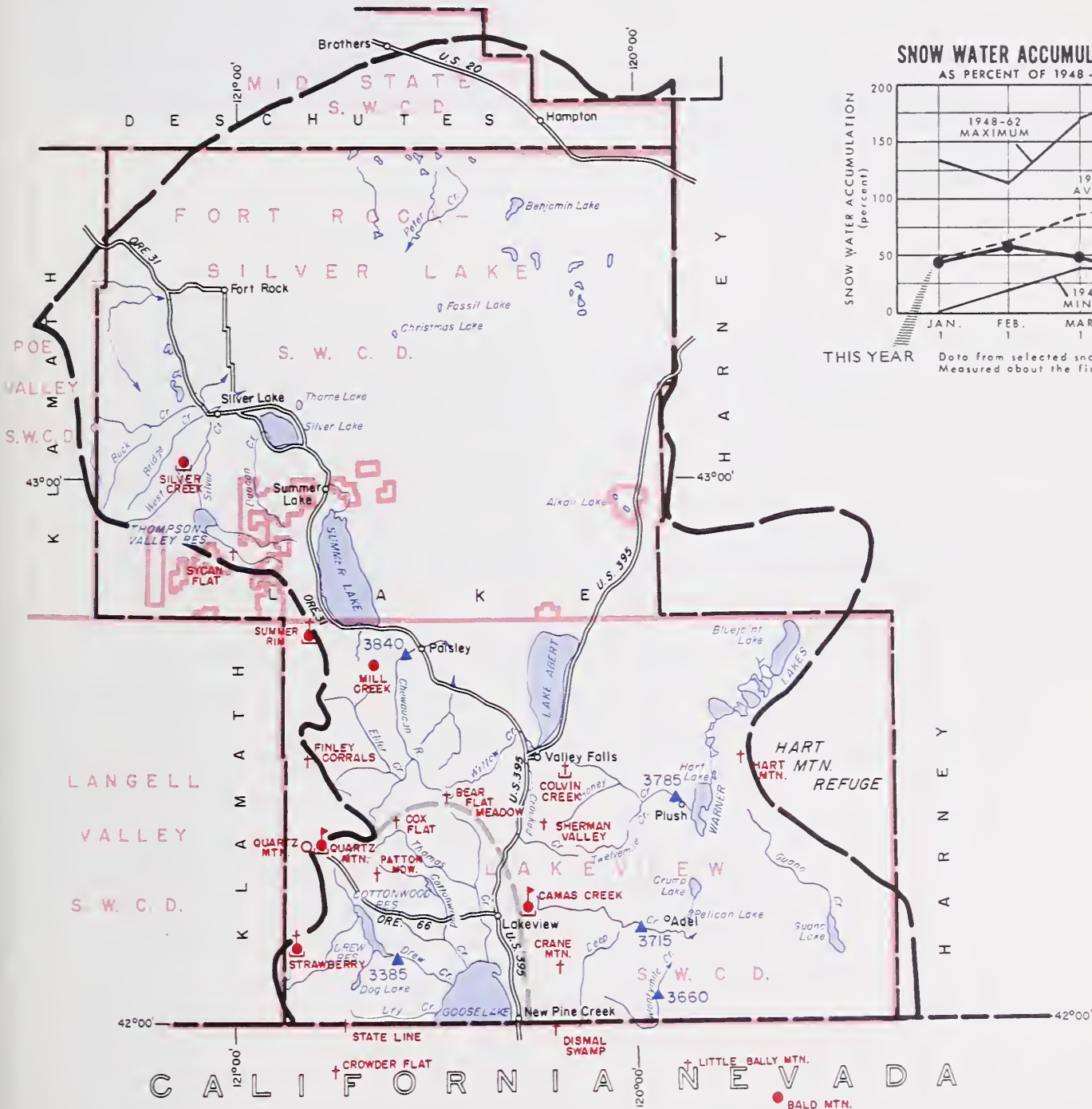
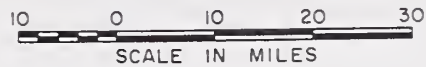
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE ⁱ
NO.	NAME				
3840	Chewaucan near Paisley	35	April-June	79	44
		40	April-Sept.	88	45
3715	Deep above Adel	25	April-June	68	37
		27	April-Sept.	72	38
3385	Drews Reservoir net Inflow ^d	2.0	May-Sept.	11.4	18
3785	Honey near Plush	3.4	April-June	15.6	22
		3.6	April-Sept.	16.1	22
3900	Silver Creek near Silver Lake	3.0	May-July	12.0	25
		3.2	May-Sept.	13.8	23
3660	Twentymile near Adel	4.0	April-June	21	19
		4.5	April-Sept.	22	20

SOIL MOISTURE

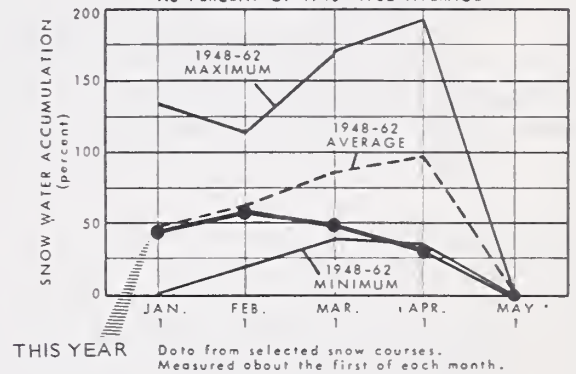
STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
		DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION						
Camas Creek	5720	42	14.5	5/1/68	12.8 ^f	12.9	11.2
Quartz Mountain	5320	48	15.3	5/5/68	8.5	9.4	8.9

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

LAKE COUNTY, GOOSE LAKE WATERSHEDS



SNOW WATER ACCUMULATION IN AREA 11
AS PERCENT OF 1948-1962 AVERAGE



LEGEND

- Watershed Boundary
- - - Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- ▲ Forecast Point
- Snow Course
- † Aerial Snow Depth Gage
- COPCO Snow Station
- Soil Moisture Station
- └ Precipitation Gage

SNOW

OR-11d

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK HARNEY BASIN WATERSHEDS OREGON

as of

JUNE 1, 1968



U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK

The poorest water supplies in about thirty-five years are expected for Harney County water users this summer. Most local streams have already dropped to levels comparable to the record-lows of the "thirties." Drying soils have absorbed most of the rainfall received during the last month.

PRECIPITATION and SNOW COVER

Precipitation in Harney County during the September 1, 1967 to May 1, 1968 period has been two-thirds of average. May precipitation was one-half (49 percent) of average according to the U. S. Weather Bureau.

Snow cover has vanished except at the very highest elevations in the county.

STREAMFLOW

Expected streamflows for the April through September period are as follows:

Stream Station	Acre Feet	Percent Average (1948-62)
Donner und Blitzen River	15,000	24
Silver near Riley (Apr.-July)	3,500	16
Silvies R. near Burns	15,000	15
Trout Creek near Denio	2,500	30

Report prepared by

W.T. FROST AND TOM GEORGE

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair",
"Average" or "Excellent"

RESERVOIR STORAGE (1,000 Ac. Ft.) June 1, 1968

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Catlow Valley	Spring peak flows are past.	Poor
Cow Creek		Poor
Donner und Blitzen River		Poor
Mill-Coffeepot Creeks		Poor
Rattlesnake Creek		Poor
Silver Creek		Poor
Silvies River		Poor
Soldier-Prather Creek		Poor
Trout Creek		Poor
Whitehorse Creek		Poor

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE

STREAMFLOW FORECASTS^a(1,000 Ac. Ft.) as of June 1, 1968

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT. OF AVERAGE ⁱ
NO.	NAME				
3960	Donner und Blitzen near Frenchglen	13	April-June	52	25
		15	April-Sept.	62	24
4030	Silver near Riley	3.5	April-July	22	16
3935	Silvies near Burns	13	April-June	96	14
		15	April-Sept.	99	15
4065	Trout near Denio	2.0	April-June	7.4	27
		2.5	April-Sept.	8.4	30

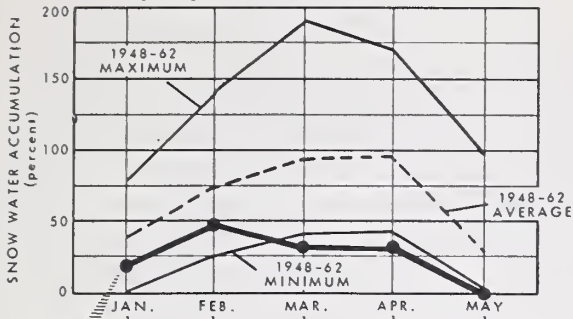
SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
		DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION						
Blue Mountain Springs	5900	42	16.9	5/31/68	12.2	13.1	11.4
Fish Creek	7900	48	15.0	b		- -	- -
Folly Farm	4450	30	12.5	b ¹		- -	- -
Silvies	6900	48	16.4	b		- -	- -
Snow Mountain	6300	48	16.7	6/4/68	12.4	16.7	16.4
Starr Ridge	5150	36	10.6	5/31/68	10.4	10.4	9.0
Stinking Water	4800	48	21.9	b ¹		- -	21.4
Willow-Bald	5000	24	6.6	6/4/68	3.2	6.4	4.6

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

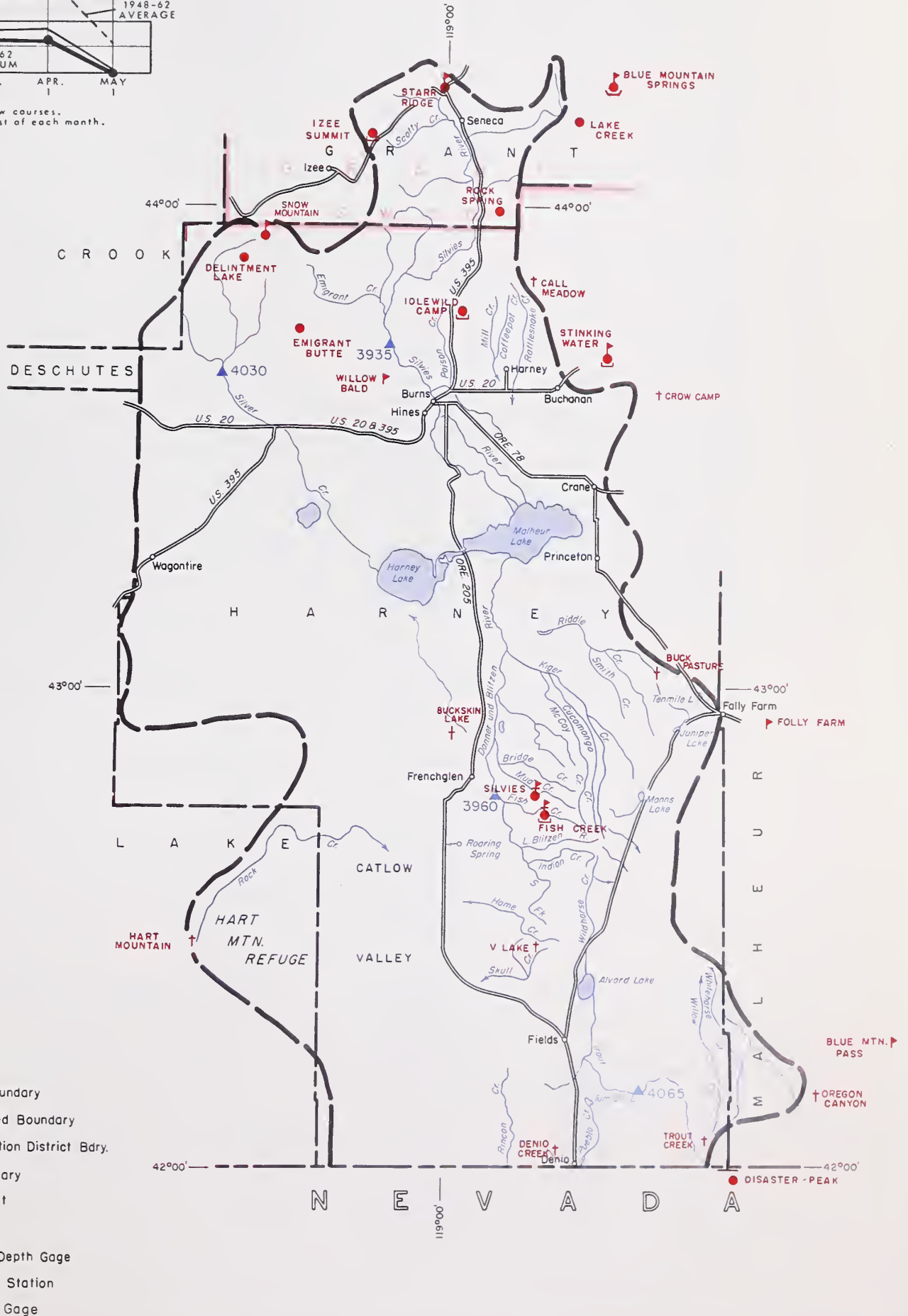
HARNEY BASIN WATERSHEDS

SNOW WATER ACCUMULATION IN AREA 12
AS PERCENT OF 1948-1962 AVERAGE



THIS YEAR Data from selected snow courses. Measured about the first of each month.

10 0 10 20 30
SCALE IN MILES



PREVIOUSLY UNPUBLISHED OREGON SNOW SURVEY DATA
1967-68 Season

<u>SNOW COURSE Name</u>	<u>No.</u>	<u>Date</u>	<u>Depth (In.)</u>	<u>Water (In.)</u>
Blue Mountain Camp	18D16	11/29/67	9	1.2
Cascade Summit	22F3	1/15/68	37	10.9
		2/15/68	46	15.0
		3/15/68	36	13.3
		4/15/68	31	12.2
		5/15/68	4	1.7
Cascade Summit (Alternate)	22F29	1/2/68	28	8.1
		1/15/68	37	10.8
		2/1/68	56	13.2
		2/15/68	47	15.8
		3/1/68	36	13.5
		3/15/68	36	12.7
		4/1/68	34	13.2
		4/15/68	30	11.8
		5/1/68	21	8.6
		5/15/68	4	1.8
Champion	22F9	1/15/68	49	17.1
		2/15/68	53	21.1
		3/15/68	30	11.5
		4/15/68	22	9.9
Cooper Spur	21D25	11/1/67	0	0.0
		12/3/67	8	1.8
		12/15/67	10	2.5
		1/15/68	11	4.7
Detroit City	22E1	1/15/68	0	0.0
		2/15/68	0	0.0
		3/14/68	0	0.0
		4/15/68	0	0.0
		5/15/68	0	0.0
Detroit Dam	22E2	1/15/68	0	0.0
		2/15/68	0	0.0
		3/14/68	0	0.0
		4/15/68	0	0.0
		5/15/68	0	0.0
East Fork Canyon	18E27a	2/8/68	6	1.5
Fish Creek	18G2a	2/27/68	36	13.0
		3/29/68	33	11.9

SNOW COURSE Name	No.	Date	Depth (In.)	Water (In.)
Fourmile Lake	22G12	4/9/68	31	14.6
Gerber	21G4	12/15/67	9	1.2
		1/15/68	10	2.0
		3/15/68	0	0.0
Golden Curry Creek	22F10	1/15/68	0	0.0
		2/15/68	0	0.0
		3/15/68	0	0.0
		4/15/68	0	0.0
Goodrich Lake	18E6	2/10/68	69	28.6
		5/10/68	56	27.3
Hogg Pass	21E6	1/15/68	49	16.3
		2/15/68	53	19.8
		3/14/68	51	19.4
		4/15/68	51	20.1
		5/15/68	26	11.3
Indian Creek Butte	18E24a	2/8/68	41	10.2
Lake Creek (New Tangent)	18E18	12/29/67	9	2.1
		1/29/68	24	4.4
		2/28/68	15	5.1
		3/28/68	6	2.2
Lake of the Woods	22G15	1/12/68	25	6.0
		2/13/68	24	7.6
		3/15/68	13	4.4
		4/17/68	3	0.9
		5/12/68	0	0.0
Layng Creek R. S.	22F13	1/15/68	0	0.0
		2/15/68	0	0.0
		3/15/68	0	0.0
		4/15/68	0	0.0
Lund Park	22F12	1/15/68	0	0.0
		2/15/68	0	0.0
		3/15/68	0	0.0
		4/15/68	0	0.0
Marion Forks	21F4	1/15/68	21	7.3
		2/15/68	30	11.7
		3/14/68	14	5.8
		4/15/68	0	0.0
		5/15/68	0	0.0

<u>SNOW COURSE Name</u>	<u>No.</u>	<u>Date</u>	<u>Depth (In.)</u>	<u>Water (In.)</u>
McCredie Springs	22F6	1/15/68	0	0.0
		2/15/68	0	0.0
		3/15/68	0	0.0
		4/15/68	0	0.0
		5/15/68	0	0.0
Meridian Dam	22F8	1/15/68	0	0.0
		2/15/68	0	0.0
		3/15/68	0	0.0
		4/15/68	0	0.0
		5/15/68	0	0.0
Mill City	22E3	1/15/68	0	0.0
		2/15/68	0	0.0
		3/14/68	0	0.0
		4/15/68	0	0.0
		5/15/68	0	0.0
Oakridge	22F7	1/15/68	0	0.0
		2/15/68	0	0.0
		3/15/68	0	0.0
		4/15/68	0	0.0
		5/15/68	0	0.0
Parkdale	21D23	11/1/67	0	0.0
		12/3/67	T	T
		12/15/67	0	0.0
		1/15/68	T	T
		2/15/68	0	0.0
Peavine Ridge	21D14	2/15/68	26	10.4
Quartz Mountain	20G6	1/15/68	17	5.4
		2/15/68	20	6.6
		3/15/68	0	0.0
		4/15/68	0	0.0
Quartz Mountain (Extension)	20G6	12/27/67	16	3.9
		1/15/68	18	5.1
		1/30/68	27	6.3
		2/15/68	20	7.0
		3/1/68	7	2.7
		3/15/68	0	0.0
		3/28/68	0	0.0
		4/15/68	0	0.0
		4/29/68	0	0.0
Quartz Mountain (PP&L)	9	1/15/68	21	6.1
		2/15/68	23	7.1
		3/15/68	10	4.1
		4/15/68	0	0.0

SNOW COURSE Name	No.	Date	Depth (In.)	Water (In.)
Railroad Overpass	22F5	1/15/68	0	0.0
		2/15/68	0	0.0
		3/15/68	0	0.0
		4/15/68	0	0.0
		5/15/68	0	0.0
Salt Creek Falls	22F4	1/15/68	24	8.1
		2/15/68	27	9.5
		3/15/68	14	4.4
		4/15/68	T	T
		5/15/68	0	0.0
Santiam Junction	2105	1/15/68	39	12.5
		2/15/68	41	15.5
		3/14/68	13	4.3
		4/15/68	4	0.6
		5/15/68	0	0.0
Silvies	18G1a	3/29/68	0	0.0
Siskiyou Summit	22G20	1/15/68	23	7.8
		2/14/68	21	8.6
		3/16/68	T	T
		4/12/68	0	0.0
Still Creek (Experimental)	21D9	1/3/68	23	6.5
		1/30/68	36	10.8
		3/1/68	17	7.0
		3/28/68	13	5.2
		4/29/68	4	1.4
Strawberry	20G9a	2/1/68	20	5.0
		2/26/68	6	2.3
		3/27/68	T	T
Summer Rim	20G2a	2/26/68	30	10.8
		3/27/68	30	12.0
Tollgate	18D3	11/29/67	9	1.2
Umbrella Falls	21D30	6/26/67	24	12.8
		11/1/67	T	T
		12/4/67	41	2.6
Upper Valley	21D24	11/1/67	0	0.0
		12/3/67	T	T
		12/15/67	T	T
		1/15/68	6	2.2
		2/15/68	0	0.0

<u>SNOW COURSE Name</u>	<u>No.</u>	<u>Date</u>	<u>Depth (In.)</u>	<u>Water (In.)</u>
Weaver Creek	22F11	1/15/68	0	0.0
		2/15/68	0	0.0
		3/15/68	0	0.0
		4/15/68	0	0.0
Weston Mountain	18D17	11/29/67	3	0.8
Whitewater Bridge	21E3	1/15/68	10	3.2
		2/15/68	10	4.2
		3/14/68	0	0.0
		4/15/68	0	0.0
		5/15/68	0	0.0
Williams Ranch	18E25	2/8/68	0	0.0

ERRATA: 1968 SNOW MEASUREMENTS PUBLISHED IN ERROR

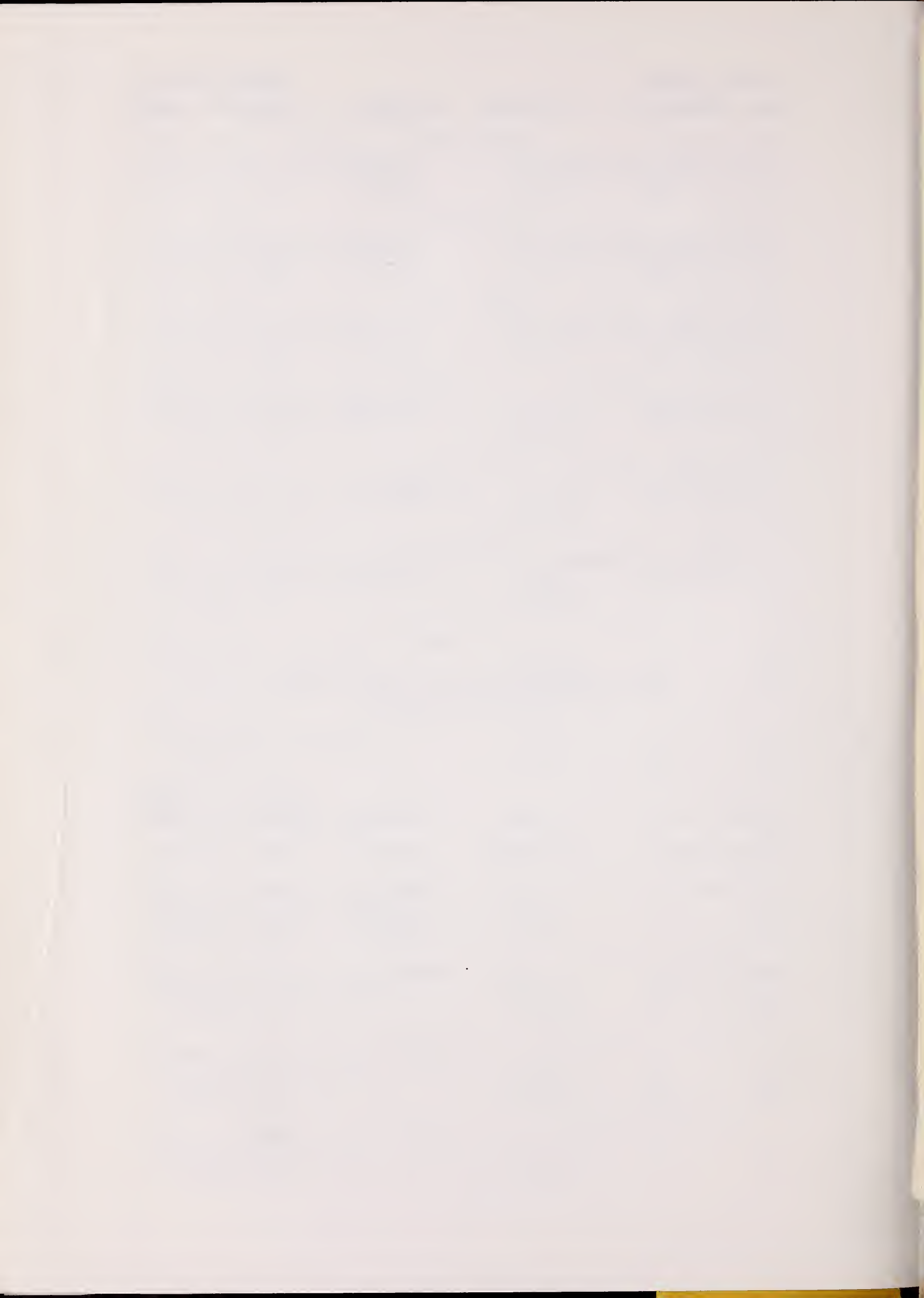
<u>SNOW COURSE Name</u>	<u>No.</u>	<u>Date</u>	<u>Depth (In.)</u>	<u>Water (In.)</u>
Bear Flat Meadow	20G15a			
Previously Published		2/1/68	25	6.2
Correct Data		2/1/68	24	6.0
Call Meadows	18F7a			
Previously Published		2/4/68	4	0.8
Correct Data		2/4/68	1	0.2
Cascade Summit	22F3			
Previously Published		4/1/68	36	14.9
Correct Data		4/1/68	37	14.9
Cox Flat	20G11a			
Previously Published		2/1/68	24	6.0
Correct Data		2/1/68	23	5.8
Crane Mountain	20G16a			
Previously Published		1/26/68	4	1.0
Correct Data		1/26/68	3	1.0

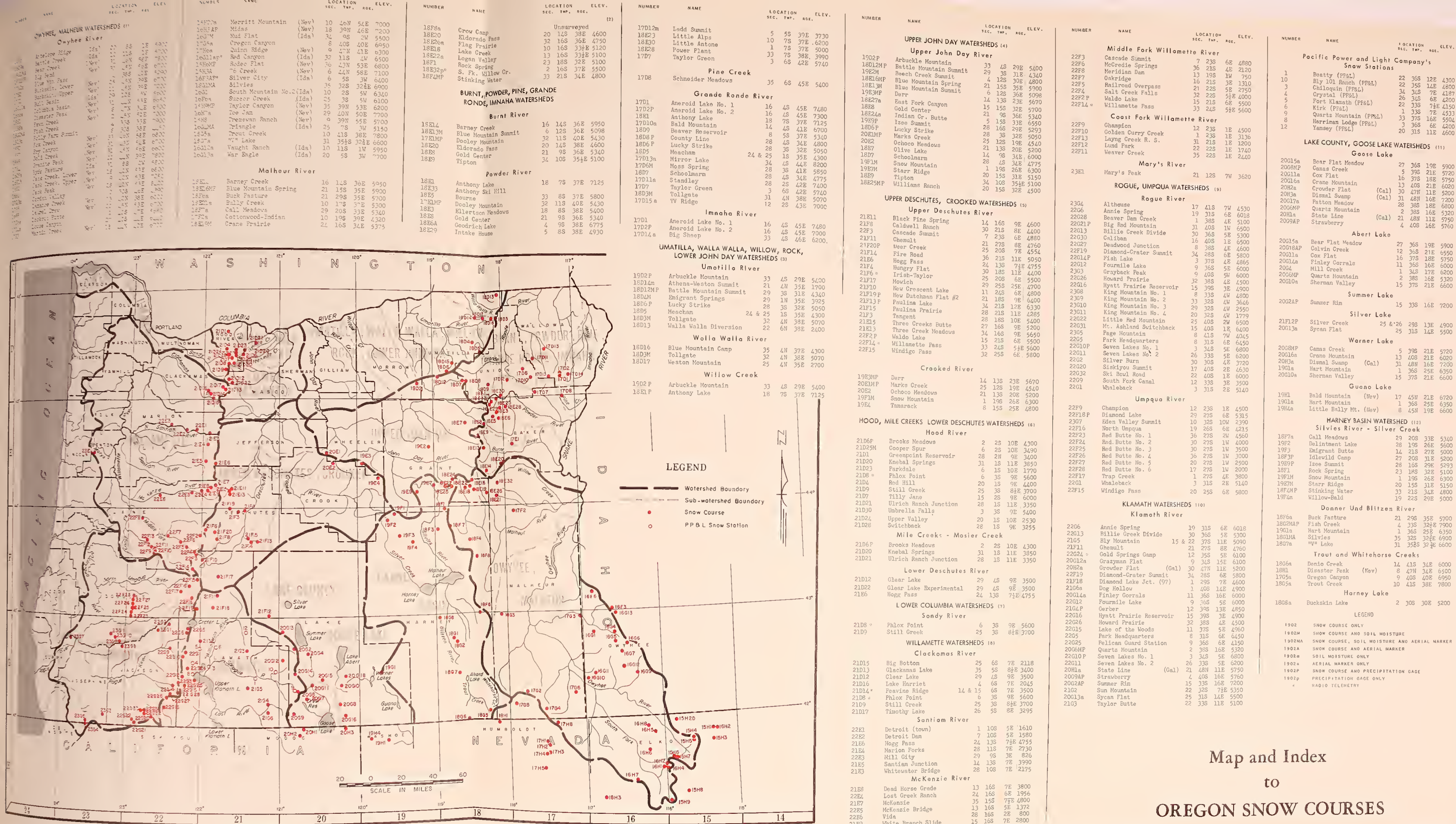
SNOW COURSE Name	No.	Date	Depth (In.)	Water (In.)
Fish Creek (Aerial)	18G2MA			
Previously Published		2/4/68	15	3.0
Correct Data		2/4/68	23	4.6
Flag Prairie	18E26a			
Previously Published		2/4/68	13	2.6
Correct Data		2/4/68	13	1.6
Hart Mountain	19G1			
Previously Published		2/1/68	4	1.0
Correct Data		2/1/68	3	0.8
Howard Prairie	22G6			
Previously Published		3/30/68	0	0.0
Correct Data		3/30/68	4	1.4
Hyatt Prairie	22G16			
Previously Published (Area 9)		3/20/68	0	0.0
Correct Data		3/30/68	0	0.0
Lake of the Woods	22G15			
Previously Published		5/1/68	0	0.0
Correct Data		4/28/68	0	0.0
Mill Creek	20G4			
Previously Published		2/28/68	13	4.5
Correct Data		2/28/68	13	4.9
Moss Spring	17D6			
Previously Published		2/7/68	33	11.2
Correct Data		2/7/68	32	11.2
North Umpqua	22F16			
Previously Published		2/28/68	12	4.6
Correct Data		2/28/68	13	4.6
Quartz Mountain	20G6			
Previously Published		3/1/68	7	2.1
Correct Data		3/1/68	7	2.5
Seven Lakes #1	22G10			
Previously Published		3/27/68	73	30.9
Correct Data		3/28/68	73	30.9
Sherman Valley	20G10			
Previously Published		2/1/68	22	5.5
Correct Data		2/1/68	21	5.2
Siskiyou Summit	22G20			
Previously Published		3/30/68	0	0.0
Correct Data		4/1/68	0	0.0

<u>SNOW COURSE</u> <u>Name</u>	<u>No.</u>	<u>Date</u>	<u>Depth</u> <u>(In.)</u>	<u>Water</u> <u>(In.)</u>
Snow Mountain	19F1			
Previously Published		4/1/68	9	3.2
Correct Data		4/1/68	9	3.3
Standley	17D11a			
Previously Published		2/7/68	59	20.1
Correct Data		2/7/68	34	11.6
Summer Rim	20G2			
Previously Published		2/1/68	36	9.0
Correct Data		2/1/68	35	8.8
Previously Published		2/27/68	31	10.6
Correct Data		2/27/68	31	11.5
Trout Creek	18G5a			
Previously Published		2/4/68	6	1.2
Correct Data		2/4/68	5	1.0
TV Ridge	17D15a			
Previously Published		2/7/68	27	9.2
Correct Data		2/7/68	20	6.8

SNOW SURVEYS AT RADIO-TELEMETRY SITES
for Calibration Purposes

<u>Site</u>	<u>No.</u>	<u>Date</u>	<u>Depth</u> <u>(In.)</u>	<u>Water</u> <u>(In.)</u>
Cold Springs	22G24	2/23/68	40	13.6
Irish-Taylor	21F6	1/31/68	46	18.0
		2/28/68	46	17.8
		3/26/68	62	22.2
Peavine Ridge	21D14	2/15/68	28	11.4





Map and Index to OREGON SNOW COURSES



The Following Organizations Cooperate in the Oregon Snow Survey Work

STATE

- Idaho Cooperative Snow Surveys
- Nevada Cooperative Snow Surveys
- Oregon State University
- Oregon State Engineer and Corps of State Watermasters
- Oregon State Highway Engineers
- Soil and Water Conservation Districts of Oregon

COUNTY

- Douglas County Water Resources Survey

FEDERAL

- Department of Agriculture
 - Cooperative Extension Service
 - Forest Service
 - Soil Conservation Service
- Department of Commerce
 - Weather Bureau
- Department of the Interior
 - Bonneville Power Administration
 - Bureau of Land Management
 - Bureau of Reclamation
 - Fish and Wildlife Service
 - Geological Survey
 - National Park Service
- Department of National Defense
 - Corps of Army Engineers

PUBLIC UTILITIES

- Pacific Power and Light Company
- Portland General Electric Company
- California-Pacific Utilities Company

MUNICIPALITIES

- City of Baker
- City of La Grande
- City of The Dalles
- City of Walla Walla

IRRIGATION DISTRICTS

- Arnold Irrigation District
- Associated Ditch Companies
- Burnt River Irrigation District
- Central Oregon Irrigation District
- East Fork Irrigation District
- Grants Pass Irrigation District
- Hood River Irrigation District
- Jordan Valley Irrigation District
- Juniper Flat Irrigation District
- Lakeview Water Users, Incorporated
- Medford Irrigation District
- Middle Fork Irrigation District
- North Board of Control - Owyhee Project
- North Unit Irrigation District
- Ochoco Irrigation District
- Rogue River Valley Irrigation District
- South Board of Control - Owyhee Project
- Squaw Creek Irrigation District
- Talent Irrigation District
- Tumalo Project
- Vale-Oregon Irrigation District
- Warm Springs Irrigation District

PRIVATE ORGANIZATIONS

- Amalgamated Sugar Company
- The Crag Rats, Hood River, Oregon

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

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supply, hydro-electric power
generation, navigation,
mining and industry

*"The Conservation of Water begins
with the Snow Survey"*